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21775

Distr.  
RESTRICTED

ISED/R.80  
5 February 1997

UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

ORIGINAL: ENGLISH

**RISK REDUCTION IN AGROCHEMICALS DEVELOPMENT  
IN THE AFRO-ARAB REGION**

XP/INT/96/012

VOLUME 3

Proceedings of the Expert Group Meeting on Risk Reduction in  
Agrochemicals Development in the Afro-Arab Region  
Port Louis, Mauritius, 4-6 December 1996\*

Prepared for the Governments of the participating countries of the Afro-Arab Region  
by the United Nations Industrial Development Organization

*Based on the work of K. Ziller*

*Project Manager: B. Sugavanam  
Chemical Industries Branch*

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\* This document has not been edited.

V.97-21366

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## 1. PREFACE

The Expert Group Meeting on Risk Reduction in the Development of Agrochemicals in the Afro-Arab Region was organized by UNIDO in collaboration with the Ministry of Health of the Republic of Mauritius and took place in the Gold Crest Hotel in Quatre Bornes, approximately 15 km south-east of the capital Port Louis.

A total of 54 participants were registered coming from more than 25 countries. The interest shown in the proposed Afro-Arab Network was impressive. As most of the participants from the African and Arab countries were specially keen to obtain 'paperback' copies of the information given during in the Country Paper Presentations and also in the Technical Lectures, it was found appropriate to divide the Proceedings into three volumes.

Volume 1 of the Proceedings of the Expert Group Meeting on Risk Reduction in the Development of Agrochemicals contains the main report as well as abstracts of the country reports and the technical lectures presented during the conference.

Volume 2 contains all country reports in full, except for some annexes that were not available in English or that were not well readable.

Volume 3 which is this volume of the Proceedings of the Expert Group Meeting on Risk Reduction in the Development of Agrochemicals in the Afro-Arab Region is mainly meant for internal reference containing all documents that are not necessarily to be distributed to all participants.

Some information such as the evaluation of the workshop or the list of participants is contained also in Volume 1 in a more condensed form.

## 2. Speeches delivered during the opening and closing ceremonies

Expert Group Meeting on Risk Reduction  
in Agro-Chemicals Development in  
the Afro-Arab Region

Mauritius, 4 to 6 December 1996

E. Paul L. Andre de la Porte

Resident Co-ordinator  
United Nations  
Mauritius

Address  
4 December 1996

Quatre Bornes,  
Gold Crest Hotel, 9: 15 AM

Honourable Ramsamy Chedumbarum Pillay  
Minister of Health

Honourable Vishnu Bundhun  
Junior Minister of Health

Mr. S. Subramanien  
Permanent Secretary, Ministry of Health

Dr. Anil Purran  
Chief Medical Officer, Ministry of Health

Mr. B. Sugavanam  
Chief of the UNIDO Agro-chemical Industries Unit

Dr. R. Sibartie  
Chairman of the Pesticide Control Board,  
Ministry of Health

Distinguished overseas and national Participants  
and Resource Persons,

Distinguished Guests,  
Ladies and Gentlemen,

It is a pleasure for me to address you this morning on the occasion of the Opening Ceremony of the "Expert Group Meeting on Risk Reduction in Agro-chemicals Development in the Afro-Arab Region". This meeting is organised by the United Nations Industrial Development Organization (UNIDO), in collaboration with the Ministry of Health, and is highly attended by distinguished delegates from more than 20 African and Arab countries, and facilitated by eminent overseas resource persons (from Germany, Hungary, India, Philippines and USA). I wish to extend to you all a very warm welcome.

Food Safety and Food Security are major issues facing both the developed and the developing countries. While food safety is of major concern to industrialized countries and food exporting developing countries, the majority of developing countries is still unable to feed all of its population, and as a result food security is still an unrealized goal. The United Nations system is much involved in poverty alleviation, with food security remaining a major component to be addressed on a global scale.

Despite the many problems associated with the continued use of agro-chemicals such as pesticides and fertilizers, they do play a vital role in crop production and protection. The manufacture and use of these pesticides and fertilizers, however, need to be closely monitored to protect our health and the environment. The United Nations system, including UNDP, UNIDO, FAG, UNEP, WHO and others, are putting great emphasis on risk reduction in agro-chemicals use. Integrated Pest Management, as a tool to reduce dependence on agro-chemicals, is a major goal. Nevertheless, we should realize that, at the present time, with the technology available, chemical inputs still continue to play an important role. Along with Integrated Pest Management, reforestation, water management, and promotion of efficient agricultural systems, especially for resource poor farmers, are also being pursued by the United Nations agencies.

Networking on a national, regional and interregional basis gives an ideal platform for experts to come together on a South-South co-operation or South-North co-operation basis, to discuss and exchange experience in crop protection.

UNDP and UNIDO have set up a very successful network on safe pesticide development in the Asia-Pacific region called Regional Network on Pesticides in Asia and the Pacific (RENAP). Dr. Dhua, the Regional Co-ordinator of the network, will be giving you an overview of RENAP tomorrow.

UNDP/UNIDO has always been supportive of networking as a catalyst for capacity building and the Asia regional network has illustrated this. Following the establishment of this successful network, UNIDO started a preparatory phase to set up a similar networking system in the Afro-Arab region, to promote risk reduction in agro-chemicals development. UNDP is fully supportive of this networking effort which, if implemented, will catalyze capacity building in this very complex multi-disciplinary field of agro-chemicals. The success of this new networking effort will, however, very much depend on the dedicated support given by the participating governments.

Agenda 21, the environment promotion plan developed in Rio 4 years ago, has clearly given high importance to safety in the production, use, and disposal of chemicals. It is needless to say that emphasis on pesticide safety, especially in developing countries, where many workers, the public, and wild-life are unnecessarily exposed to toxic chemicals, must be of paramount importance. Regional co-operation and affirmative action taken at national level will, if agreed upon, definitely reduce, or even eliminate, such unwanted

exposure to pesticides. While the pesticide problem is given great coverage, there is an under-estimation, or lack of awareness, with regard to the effect of fertilizers, leaching into the ground and surface waters, causing undue stress to aquatic life, and jeopardizing the balanced growth of vegetation, blocking the water-ways and consuming available oxygen. I am glad that the network will put emphasis on the proper use of both pesticides and fertilizers, for the benefit of mankind, and without adverse effect on the environment.

With the population increasing at rates of two to three percent in developing countries, sound agricultural management is of vital importance to achieve food security with sustainable agricultural inputs. The role of industry, the Government, and the public is therefore a major factor to achieve food security in our part of the world.

It is hoped that this meeting will be an opportunity, to share your respective countries' experiences and to enhance the existing capacities on these crucial issues, through scientific choices, and the adoption of safer and environment-friendly technologies and products, needed for the alleviation of poverty and hunger.

I wish you a fruitful meeting!  
Thank you.



**STATEMENT of UNIDO Representative, Dr. B. Sugavanam, at opening ceremony**

Honourable Minister of Health Mr. Pillay, Respected representatives of UNDP and WHO, distinguished representatives from the various Ministries of the Government of Mauritius and the Afro-Arab Region, Ladies and Gentlemen:

It has been a great pleasure for me to revisit this beautiful country and on behalf of the Director General of UNIDO Mr. Mauricio de Maria Ycampos and on my own behalf I extend a hearty welcome to all of you on the occasion of the Opening Ceremony of the Expert Group Meeting on Risk Reduction in Agrochemicals Development the Afro-Arab Region.

At the outset I want to thank and express my gratitude to the Government of Mauritius especially to the Ministry of Health for providing all the facilities and arrangements for organizing this very important meeting.

It was in 1991 at Brussels, UNIDO organized an Expert Group Meeting to develop integrated safety guidelines in pesticides formulation in developing countries. At that time interaction of experts from Asia, Africa and the Arab Regions prompted the idea of setting up of an Afro-Arab Network similar to the Asian network called 'Regional Network on Pesticides for Asia and the Pacific called RENPAP which is supported by UNDP and executed by UNIDO.

It was in 1995, UNIDO gave the seed money to start a preparatory assistance project. Two expert teams, who are also here with us today, visited countries in the Afro-Arab region and collected information and discussed with various Government and industry officials and submitted two reports one for the Africa region and another for the Arab region. Based on the findings a draft project proposal has been prepared which will be discussed in this meeting.

The issues to be addressed to, are very complex but relevant to maintain a sustainable food security in the two regions taking into account human and environment safety.

The developing countries are increasing their use of agrochemicals to make sure that their ever growing population is fully fed and protected from vector borne diseases. No doubt agrochemicals do bring enormous economic benefit but no one can deny that these very agrochemicals also brought about pest resistance to pesticides, resurgence of new pests, contamination of human and wild life and environment including air, water and soil. In many cases the developing countries are either unaware of this invisible pollution or if they were aware of it, they do not have the capacity and the capability to handle the problems.

Our experience in Asia indicates that networking on a regional level is the most efficient and economic way of understanding the issues, exchange experience which in turn act as a catalyst in capacity building to risk reduction in agrochemicals development.

This group meeting will give an opportunity for experts from within the Afro-Arab region and outside the region to discuss various issues and make recommendations to that

UNIDO could discuss with potential donors to set up an Interregional Networking with sub networks functioning in different regions.

The issues to be considered are:

- data collection and dissemination
- promotion of user/environment friendly pesticides and their formulations
- Quality Control / Quality Assurance
- Occupational Health and Industrial Hygiene
- Environmentally Sound Management of toxic/hazardous waste
- Application technology
- Ecotoxicology and Environmental Monitoring
- Bio and Botanical Pesticides

It is very important to understand and appreciate the benefits of dealing with these issues and how a networking could catalyze national capacity building in various areas for the benefit of the whole Afro-Arab region.

We all know that the Afro-Arab region is a big consumer of agrochemicals and this idea of networking has already attracted moral support from many organizations and we have to work together to convert it to financial support. Therefore it is very important to have the full commitment of the participating countries and the UN agencies to assist these two regions in reducing the risks due to production and use of agrochemicals.

I am looking forward to the three day meeting with productive and constructive discussions. I once again thank the Government of Mauritius for hosting this important meeting and wish the foreign delegates a pleasant stay in this island of paradise on earth.

**ADDRESS BY HON. K. PILLAY, MINISTER OF HEALTH AT THE OPENING OF THE EXPERT GROUP MEETING FOR THE AFRO-ARAB REGION ON RISK REDUCTION IN AGRO-CHEMICALS DEVELOPMENT ORGANISED JOINTLY BY UNIDO/MINISTRY OF HEALTH AT GOLD CREST HOTEL FROM 4-- 6 DECEMBER, 1996**

His Excellency the Resident Representative of UNDP

Representative of WHO

Representative of UNIDO

UNIDO Consultants

Permanent Secretary, Ministry of Health

Principal Medical Officers

Regional Health Directors

Official and Cadres of the Ministry of Health

Representative of different countries

Participants from various institutions

Distinguished Guests

Ladies and Gentlemen,

It is indeed a great pleasure that I find myself in your midst today for the opening of this Inter-Regional Expert Group Meeting on Risk Reduction in Agro-chemicals development in the Afro-Arab region.

2. The expert Meeting is being organized with the collaboration of the UNDO and I would like to express my gratitude to UNIDO, in particular to Dr. Sugavanam and his other colleagues from UNIDO for the support and assistance extended in organizing the Expert Meeting.

3. On behalf of the Government of Mauritius and in own personal name I would like to extend a warm welcome to all overseas participants and wish all of you a pleasant stay in our country. I also wish to thank all the other participants from various Ministries for agreeing to take part in the Expert Meeting.

4. The organisation of the Expert Meeting comes at a propitious moment. We in the African and Arab regions have a common distinctive feature. Agriculture and the Tourism sector are important components of our economy. In view of the rise in population, the

growing demand for food, besides the adoption of practice such as soil conservation, irrigation, cultivation of high yielding plant varieties, recourse to the use of Agrochemicals in assuming great significance. Use of a new crop varieties require more application of fertilisers which undermine the natural fertility of the soil. Besides the high-yielding plant varieties are generally more prone to plant diseases and pests necessitating treatment with large amounts of pesticides which constitute a serious hazard to Public Health and to the environment. There is resort to the use of chemicals to eradicate vectors responsible for vector-borne infections in order to maintain satisfactory standard of living to give an impetus to the Tourism Industry. The fulfillment of these exigencies leads to the inevitable rise in the production and use of Agro-chemicals. It has been found that on a global basis there has been a steady increase in the use of pesticides, herbicides and fungicides.

5. There is growing concern about the use of Agro-chemicals and the impact they have on Public Health and the environment. Use of fertilizers may affect soil fertility in view of the gradual build-up of nitrate and phosphate compounds and the inherent risk of contamination of ground water sources. The effect which exposure to chemicals has on workers and the public during production and use of pesticides especially due to improper handling of chemicals products should not be overlooked. Awareness of the hazards which Agro-chemicals represent to Health and to the environment is on the increase.

6. A multi-faced broad approach is required to evolve a strategy to promote risk reduction in agro chemical development. I therefore pay tribute to the UNIDO to set up Regional networks where countries particularly those of the African and Arab regions would pool their efforts to proceed with a situation analysis in respect of agro-chemical products and use of formulate a plan for risk reduction/elimination.

7. It is expected that the network will look into the broad spectrum of agro-chemicals development will facilitate regional awareness, promote inter-regional exchange and develop know-how and capability in the national program of the states of the region.

8. I consider that the Expert Meeting is a suitable forum which will offer you the opportunity to be exposed to the presentations of various UNIDO Consultants and at the same time it will provide for an interview of views and experience about the problem of agro-chemical use and management in different settings. I hope that your deliberations and

discussions will be fruitful and enriching and you will come up with constructive viable alternative strategies for risk reduction in agro-chemical development.

9. Before ending I would like to reiterate my thanks to the UNIDO for all its assistance, to Dr. Sibartie and his staff, to the staff of the administrative cadres to the Management of Gold Crest Hotel and to everybody who have contributed in one way or the other in organising the Expert Meeting.

10. I have the pleasure to announce the opening of the Expert Meeting.

11. Thank you for your attention.

**Address by Junior Minister for the closing ceremony of the Expert Group Meeting for Afro-Arab Region on Agro-Chemicals development on Friday 6 December at 4:00 p.m at Gold Grest Hotel**

Dr Sugavanam, UNIDO Consultant,  
Other Unido Consultants,  
Dr Sibartie, Consultant Occupational Health,  
Representatives from different countries,  
Participants from various institutions,  
Distinguished guests,  
Ladies and Gentlemen,

It is with deep emotion that I address you today as we are coming to the close of the inter Regional Expert Group Meeting for the Afro-Arab Region on Risk Reduction in Agro-Chemicals Development.

2. Following visits to countries of the region UNIDO has its choice in our country for the organisation of the Expert Meeting. It was an honour for our Government to host the Expert Meeting.
3. The Expert Meeting has been organized with the collaboration of UNIDO. I would like at this stage to pay a special tribute to Dr. Sugavanam and his team of UNIDO Consultants for all the support and assistance provided for organizing the Expert Meeting.
4. The Expert Meeting has assembled together some 30 foreign participants from different countries as well as about 20 participants from our own country. You have had deliberations on an important problem, the control of risk represented by use and production of Agro-chemicals.
5. In view of industrial and agricultural development in countries of our region there has been an increase in the production and use of Agro-chemicals which have an effect on Health and the Environment in general, Workers and even the public are needlessly exposed to Agrochemical use and the problem is exacerbated as they do so in hot climate conditions.
6. There is growing concern about the problem of Agro-chemical use and a concerted effort is required to adopt measures for low-risk pesticide control management. A review

of the situation in countries of our region has revealed the inadequacy of effective legal provision and public Health measures to mitigate or eliminate risks pertaining to Agro-chemical development. While the trend in industrialized countries is towards use of low volume/high value products to minimise risk reduction, it has been found that developing countries are confronted with problems of toxic Agro-chemicals and ineffective waste disposal measures. In the face of such an alarming situation an assessment to the effect of Agro-chemicals on Health is more than ever necessary.

7. It has come to light as a result of the fruitful and constructive discussions which you have had that an awareness on the concept of risk reduction with regards to Agro-chemical development is slowly evolving. There is consensus on the necessity to provide for a regional network to facilitate contacts, cooperation to minimize risk reduction. There is a willingness on the part of many countries of our region to be associated with the network to even contribute towards the establishment of a viable network. There has been favourable response on the part of countries of the region to participate in the setting up of a technical Regional Network. The Regional network will be a mechanism to facilitate exchanges for meeting the overall objective of risk reduction in Agro-chemical development.

8. We were pleased to have so many foreign representatives to our country. We have had a good response from our local participants. although the Expert Meeting has been of short duration, it has given you glimpse of the hospitality of culture and tradition of our country. It has helped in any way to improve and consolidate ties among our different countries. For those who will leave for their country I wish them a pleasant trip back home.

9. The Expert Meeting has been a useful forum to sort our problems in an atmosphere of frank dialogue and good neighborliness. we now belong to a common family moving towards an important goal in risk reduction on Agro-chemicals Development. I am happy that the Meeting has led to a positive outcome and we will pursue our effort in a spirit of mutual cooperation and understanding. I now announce the closing of the Expert Meeting.

Thank You.

### 3. ANNEX ( )

#### DISCUSSIONS OF LECTURES

(questions and answers)

6.1 Occupational Health and safety relevant to Pesticide production and use.  
By Dr. N. Cortes-Maramba (Philippines)

#### Questions

1. Considering the serious problems of poisoning mentioned for Mauritius, what measures are being taken to reduce this?
2. How is the Control and Management of pesticides and fertilizers effected in the Philippines?
3. Are inert materials registered?

#### Answers

1. Following efforts have been made:-
  - only certified dealers are allowed to engage in pesticide business,
  - Organochlorines like DDT formerly allowed for vector control are now banned.
  - Health workers in the program are provided with the necessary First Aid Kits and prior training
  - Acute organophosphate/carbamate poisoning cases have been managed by activated charcoal and injectable atropine..
2. Solved by Legislation and proper enforcement facilitated by a technical committee composed of members from various disciplines.
3. Active ingredients and socalled "inert" materials are considered during registration. Technical information especially on toxicology of the formulation has to be provided by the registrants.
4. General Comment (by Dr. Sugavanam)

The presentation will act a model for occupational health and safety of pesticides in the region, and will therefore be adopted in our networking.



6.2 Pesticide poisoning in Mauritius  
by Mr. A. Jackaria (Mauritius)

**Questions**

1. What are the major courses of pesticide poisoning in Mauritius?
2. Is criminal poisoning also common in Mauritius?
3. Considering the increasing high demand for paraquat , globally in Mauritius adopting the newer formulations which can contribute to low poisoning?

**Answers**

1. The most common causes of pesticide poisoning are suicides.
2. In Mauritius, like in South Africa and elsewhere , criminal poisoning is also common, but was not the subject for discussion in this workshop.
3. Newer formulations of paraquat which contain an emetic are available and these are distinguished by colour (blue).

Comments (Dr.Menn): The addition of emetic does not necessarily decrease systemic poisoning from paraquat since paraquat is also absorbed dermally when patient vomits and spills on skin. (The same opinion based on experience was confirmed by Dr. Maramba from Philippines)

6.3 Biopesticides - their relevance to the Afro-Arab Region  
by Dr. J. Menn (USA)

**Questions**

1. What are the cost benefits of microbial pesticides?
2. What are the dangers of biopesticides to human?

**Answers**

1. Bacillus Thuringiensis is competitive with chemical pesticides, especially for vegetables and field crop pests.
2. Most biopesticides are not harmful since they are generally found in nature and are also used in food processing. e.g. cheese making. Research results have indicated that human ingestion has no harmful effects. However, for some other biopesticides, safety trials are necessary but, these are generally cheaper than pesticides.

6.4 Botanical pesticides in Mauritius  
by Mrs. S. Facknath, Mauritius

**Questions**

1. According to your presentations, carcinogenic effects of Neem have not been concluded; that is they are still under experimental stage. How safe are we in using Neem for pest control?
2. What would you say about the potential of using Melia Spc. for pest control?
3. Are there possibilities of pest resistance with botanical pesticides?
4. There is a feeling that the development and applications of botanical pesticides can be rather expensive. - Any comments?

**Answers**

1. As for carcinogenic effects of Neem, the problem may be serious with high dosages, something which is not possible unless the materials ingested.
2. Some work has been done with crude extraction of Melia, but due to high mammalian toxicity of this material it is not considered safe for use.
3. Resistance will take a rather long time due to the synergistic nature of constituent compounds of most botanicals.
4. Botanical pesticides are only expensive when efforts are made to extract some active ingredients from the plant, e.g. azadirachtin from Neem, but it is usually more practical to use crude formulations.

6.5 Importance of Ecotoxicity and Environmental Monitoring  
by Dr. B. Sugavanam, UNIDO

**Comments**

In developing countries, safety, like in the USA must be emphasized for children. It is therefore necessary to set up an extra safety margin for the acceptable levels.

**Question**

Are there documented cases of pesticide dumping or sale of pesticides which are below standards?

**Answer**

There are a number of such cases, especially for cheap pesticides or those which are imported under food and programs. Moreover, PIC (Prior Informed Consent) due to be adopted by various countries will help to check on this problem.

6.6 Monitoring of Natural Water for Agrochemical Contamination in Mauritius  
By Mr. G. Umrit, Mauritius

**Questions**

Was the level of Atrazine found in the water samples within permissible limits?

**Answer**

Yes, the levels were below acceptable limits. Moreover, the levels of Nitrates in the soil, assumed to have originated from fertilizers, were also low.

6.7 Activities of the Regional Network on pesticides in the Asia and the Pacific -  
(RENAP.)  
by Dr. S.P. Dhua, India

**Comments**

In the RENPAP experience can serve as a model for the proposed Afro-Arab Network in pesticide risk reduction.

**Question:**

1. Why is DDT manufactured and used in the RENPAP region
2. Has RENPAP provided policy or guidelines on pesticide quality control especially on the use of DDT.
3. What are the financial implications for member countries in implementing the objectives of RENPAP?

**Answer**

1. DDT is manufactured in India and Indonesia. It is still the pesticide of choice for disease vectors control until an alternative pesticide such as **Bt** is in place.
2. The role of RENPAP is to give recommendations in an advisory capacity.
3. Participating countries provided contributions in kind or allocations from other country programs.

6.8 Raising worker protection standards for pesticide users through improved clothing in Tropical Countries.  
by A. Shaw, USA

**Questions**

1. When it comes to the Personal Protection Equipment (PPE), do you take into consideration the active ingredient and the formulation?
2. What are the funding opportunities for the PPE
3. What is PPE composed of?
4. Will PPE conform to international standards?
5. What was the PPE experience in India?
6. Would disposable protective clothing (e.g. paper) be considered for PPE development?

**Answers**

1. In the development of PPE, pesticide a.i. and formulations are generally taken into consideration. There have been collaborative arrangements with University of Colorado on development of PPE to take into consideration the characteristics, viscosity and surface tension which affect penetration.
2. The program is still working on funding mechanism and networking will facilitate fund rising; initial grant given by USAID was for two years work in India.
3. PPE would be based on appropriate needs and does not necessarily consider the whole protective gear.
4. Yes, it would have to be, otherwise the whole purpose would be defeated.
5. The FAO Code of Conduct was closely followed. Consideration was given to available materials, acceptance, topography and type of problem/pest. Cultural factors including gender issues, were also taken into consideration. Training for adaptation was also found necessary.
6. Whereas disposable protective clothing would reduce problems of washing experience in Ghana has shown that they are not suitable especially under humid conditions and wet environment. Besides, there would be problems of disposal.

4. Discussion groups

**POINTS FOR DISCUSSIONS**

1. KEY AREAS OF CONCERN AND PRIORITISATION.
2. CLASSIFICATION OF THE COUNTRIES ACCORDING TO UNIDOS' CATEGORISATION (FOUR).
3. COVERAGE TO INCLUDE BOTH FERTILIZERS AND PESTICIDES.
4. APPROPRIATE MINISTRIES/INSTITUTIONS TO PLAN FOCAL ROLE AS NATIONAL COORDINATORS OR TECHNICAL COORDINATOR UNITS.
5. SUTABILITY OF REN PAP MODEL - NEED FOR SUITABLE ADAPTATION IF ANY.
6. LEVEL OF COMMITMENTS EXPECTED FROM YOUR COUNTRY IN CASH AND KIND.
7. SUGGESTIONS TO GO AHEAD WITH THE IMPLEMENTATION OF THE PROGRAMME.

## 5. EVALUATION

The EGM was briefly evaluated by the participants by filling up the form below and by giving additional comments.

**EXPERT MEETING EVALUATION**

1. NAME
2. ORGANIZATION
3. QUALITY OF ARRANGEMENTS OF THE MEETING  
 EXCELLENT     GOOD     INADEQUATE
4. DURATION OF THE MEETING  
 APPROPRIATE             SHORT
5. TOPICS COVERED  
 ADEQUATE                     LESS THAN EXPECTED  
 MORE THAN EXPECTED
6. COUNTRY PARTICIPATION IN THE MEETING SESSIONS  
 MORE THAN ADEQUATE  
 ADEQUATE  
 LESS THAN ADEQUATE
7. TOPICS FOR GROUP DISCUSSIONS - THE KEY ELEMENTS  
 MORE THAN ADEQUATE  
 ADEQUATE  
 LESS THAN ADEQUATE
8. IMPORTANCE OF THE TOPIC OF THE MEETING  
 VERY IMPORTANT  
 IMPORTANT  
 NOT SO IMPORTANT
9. EFFECTIVENESS OF THE GROUP DISCUSSIONS  
 EXCELLENT  
 GOOD  
 INADEQUATE
10. ANY OTHER COMMENTS IN RESPECT TO YOUR COUNTRY'S ROLE AND COMMITMENTS

The result of the evaluation questionnaire is summarized by the following graphs:

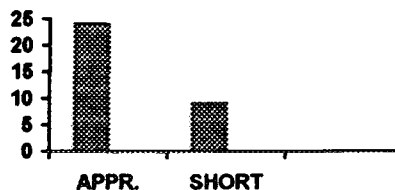
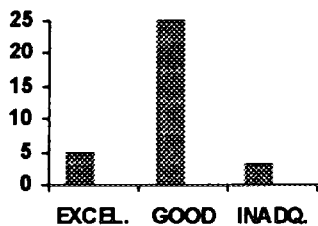
**EXPERT MEETING EVALUATION**  
(33 returned questionnaires)

1. (Name)

2. (Organization)

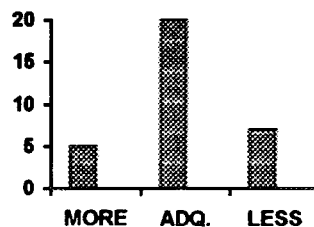
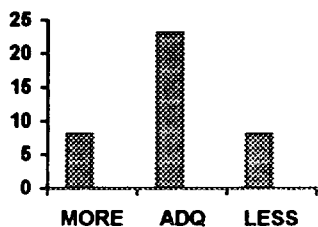
3. QUALITY OF ARRANGEMENTS

4. DURATION OF THE MEETING



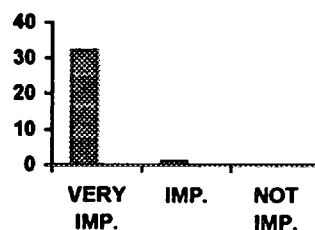
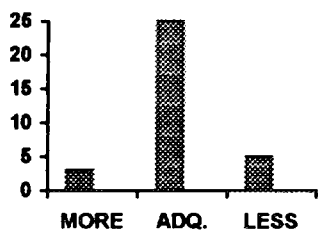
5. TOPICS COVERED

6. COUNTRY PARTICIPATION IN THE MEETING

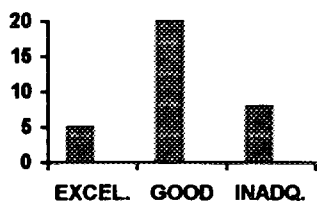


7. TOPICS FOR GROUP DISCUSSION- TOPIC OF THE KEY ELEMENTS

8. IMPORTANCE OF THE THE MEETING



9. EFFECTIVENESS OF THE GROUP DISCUSSIONS



## Comments given on evaluation sheets:

| ORGANISATION                              | COMMENTS   |
|---|--|
| Ministry of Health, Mauritius             | We may help in kind; the other commitments should be discussed with the Policy deciders.   |
| Sudanese Chambers of Associations         | <p>In the Sudan case apart from other Arab countries that it is doing a reasonable efforts in Bio/Botanical topic using neem of garlic as safe pesticides (University of Khartoum with collaboration with other local institutions are very busy in this subject). In this area I think they should be helped if possible.</p> <p>In fertilizers I think we are facing an odd situation that is we import very big quantities of fertilizers although we have a factory already installed (20 years ago) but not working .</p> <p>Sudan is ready to contribute in such programme with all available assistances (Researches, experts, area, etc. )</p> <p>Sudan is also keen and need the benefits of such proposed Network.</p> |
| Department of Agricultural (M.P.K.G.THEU) | Arrangements of trips and SDA should be clearly given to participants prior to departure. This was not the case in my situation.   |
| Ministry of Environment -                 | <p>This project need more coordination between different Ministry, especially Ministry of Agriculture, Environment and Health.</p> <p>The Information is very important and all countries should respect the PIC (Directives of London) and other international conventions like Basel - Bamako, and Barcelona for the Mediterranean countries;</p> <p>(may be more information about their chemicals products and TPB pops etc....)</p>   |



I suggest as local point for Arabian region:  
the "International Centre of Eco Technologie  
in Tunis" Tunisia (Ministry of Environment)

**National Department of  
(South Africa)**

Networking is supported to enable harmonisation to take place in the field of Legislation and exchange information on actions taken on bio/botanical pesticides will also be valuable.

**ASMIDAL (MOI - Algeria)**

Regarding the importance of project it would be appropriate if the project Afro-Arab Network presented the first day of the seminary. The last day should take for discussion and approval of the project; Papers must be given after each presentation for communication.

**Ministry of Industry - Lebanon**

Pollution in general is a great problem in Lebanon. Pollution comes from different sources . Household wastes, external sources from foreign countries, waste products, wastes from industries (Pesticide or Fertilizer Industry). There is an urgent need for Lebanon to solve this artificial problem. This network is important for Lebanon to handle seriously the pollution of the environment and to ensure health in food to population through the rational use of environmental friendly pesticides and fertilizers.

**Ministry of Agriculture**

Ministry of Agriculture in Palestine is very interested in the network for its potential important role regarding different aspects of pesticides. This interest has come from the unique situation of the pesticide and fertilizers usage in the Palestine territories. NGOs may also play a key role for the benefit of the network especially in the field of Data collection and dissemination, computer facilities and Internet.

- ASMIDAL (Ministry of Industry)** The subject is very important. Regarding the subject it would be better if the Afro-Arab network project presented the first day and the discussions of project take the last day. About organisation, the papers for all reports must be given to all the participants after the communication.
- Ministry of Health - Zambia** Notice for meeting was too short and some of us did not get our letters of invitation in time. of hotel or venue for meeting was not included in the letter of invitation. This caused a lot of problems for the immigration at Port Louis airport for me. Handouts for all keynote addresses or papers presented by experts should have been available to all of us as these will be our basis for decisions and recommendations to our Governments.
- Ministry of Industry - Saudi** We are need more information about Topic of pesticides.
- Industrial Research and Organisation - Tanzania** My country is committed in participating in the network in the field of pollution prevention in industries especially in the "Cleaner Production Approach". a cleaner production centre has been established and the experience in this field can be shared among the member countries.
- Ministry of Health - Zimbabwe** Zimbabwe has a role to play in the Network.
- Ministry of Food & Agriculture, Protection & Regulatory** To discuss issues raised with the relevant Ministries and organisations before any concrete commitments could be made. There is a national committee on pesticides management and this committee is to take final decision on my report and recommendation after this very important meeting. Thank You.
- Ministry of Agriculture - Ethiopia** Ethiopia will commit itself to this network and try to work according to the objectives set up in the project.

|   |  |
|---|--|
| <b>Ministry of Industry And Trade<br/>Ratovoarivelo I. T.</b> | <b>./.</b>   |
| <b>Ministry of Health - Mauritius</b>                         | <b>As host country we are happy to have contributed to the success of the meeting and hope that all the participants had a nice stay and we will be glad to help in setting up the network and we can offer Mauritius for Secretariat Establishment, and we are willing to share our knowledge and experience in<br/>(1) Legislation and Enforcement<br/>(2) Ecotoxicology and Environmental</b> |
| <b>National Environment<br/>Authority - Uganda</b>            | <b>Ready to participate in the Network but more time should be allowed for consultations to take place e.g. the project proposal document was not availed to the participants in time and as such it was not circulated to relevant organisations for comment. Also the project document was presented in the meeting. It was not exhaustively discussed.</b>                                    |
| <b>Environmental Council of Zambia</b>                        | <b>The project proposal entitled "The Afro-Arab Network for Risk Reduction in Agro-Chemicals" draft print 28 February 1996 was not discussed at all. Although work done preliminary to the preparation of the proposal i.e. Africa and Arab survey was outlined. In my opinion this is a very serious oversight for the serious operation of the network.</b>                                    |
| <b>Ministry of Agriculture - Syria</b>                        | <b>It is not possible to offer cash contribution - they will be in kind one.</b>   |
| <b>Agriculture Affair and Fish<br/>Kuwait</b>                 | <b>More time for proposal discussion was needed</b>  |

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