



# LEVERAGING EXPERTISE OF CIVIL SOCIETY in Developing Countries



## Communication Programme on Methyl Bromide

Synthesis Report 2004



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United Nations Environment Programme  
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OzonAction Programme





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## FOREWORD:

**“NGOs are no longer seen only as dissemination of information, but as shapers of policy and indispensable bridges between the general public and the intergovernmental process”.**

**- Kofi Annan, UN Secretary-General, 53<sup>rd</sup> session of the UN General Assembly – 1998**

Non-Governmental Organization's play a unique and pivotal role in the realm of the Montreal Protocol. They initially popularized the Molina – Rowland scientific hypothesis about the cause of ozone depletion and moved on to demand action from government in the 1970s. NGOs then crossed these usual traditional boundaries by becoming directly involved in industry decisions on uses of hydrocarbons and natural refrigerants in the 1990s. NGOs are an essential and inspiring component of the global solution to ozone depletion.

UNEP DTIE's OzonAction Programme adopted a core strategy to leverage this NGO expertise and to team with them to address the ground-level issues. This strategy produced a very positive result that helps engage civil society in resolving a number of difficult and sometimes unexpected issues related to implementation of the Montreal Protocol.

The partnership that the Programme developed with NGOs testifies to the potential of their reach and expertise. UNEP teamed with Greenpeace to produce the video “Back to the Future”, which contributed to the understanding of safety issues in several developing countries in the manufacture and use of domestic refrigerators and aerosols using hydrocarbon propellants. OzonAction joined with Pesticide Action Network and the result was an international inventory of experts, initiatives and assistance available to phase out methyl bromide in the agricultural sector.

Methyl bromide, a soil fumigant, was included as a controlled substance under the Montreal Protocol in 1997 when for the first time that the agricultural community became engaged in implementation of the Montreal Protocol. At this turning point in the history of Montreal Protocol, OzonAction developed an innovative mechanism to engage NGOs in developing countries that had hands-on experience in sustainable agriculture. Under the Multilateral Fund, OzonAction provided financial assistance and technical guidance to 13 NGOs from as many countries to spark actions to eliminate methyl bromide. This publication presents the saga of the unique efforts of these NGOs from developing countries.

One dimension of the impact of their activities is not sufficiently highlighted in this publication. It is: UNEP learned a lot from these NGOs. One of the lessons we learned was that NGOs make a positive difference, broaden environmental dialogue, channel information back from the ‘persons in the farms’ to the negotiations at the international level and, more importantly, transfer “advocacy to actions”.

Rajendra M. Shende, Head  
OzonAction Branch, UNEP DTIE

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## 1.0 - EXECUTIVE SUMMARY

UNEP's "Methyl Bromide Communication Programme" (MBCP), approved at the 30th Meeting of the Executive Committee to the Montreal Protocol (ExCom 30), was the first project under the Multilateral Fund to fund Non Governmental Organisations, or NGOs, to carry out awareness-raising activities to promote the phase out of the ozone-depleting pesticide methyl bromide. Ten countries (Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Philippines, Thailand, Zambia and Zimbabwe) were each funded at that time with US\$25,000 in total, of which US\$ 12,000 was used to carry out their national MBCP activities. Utilising the expertise of NGOs across the globe, this project's goal was to assist ten developing countries, in the first instance, in meeting the 2002 freeze in methyl bromide and the subsequent reductions and phase out. Three more countries were added belatedly at ExCom 34 (Cameroon, Nigeria and Senegal, receiving the same funding as their predecessors) in November of 2001. With all countries having completed their project activity, the purpose of this report is to provide an overview of the MBCP's main activities and outputs of the countries, and to evaluate whether this project achieved its goals and objectives.

### Project Goals and Objectives

The main objectives of the project were to 1) raise awareness among methyl bromide users in developing countries about the methyl bromide phase out and available alternatives, 2) enhance the capacity of NGOs and agricultural organisations in promoting methyl bromide alternatives and 3) disseminate the results of methyl bromide alternatives demonstration projects being carried out under the Multilateral Fund in general. The target countries selected for this project were those countries with significant and growing methyl bromide use and low levels of awareness among methyl bromide users: Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Nigeria, Philippines, Senegal, Thailand, Zambia and Zimbabwe.

### Organisation of the Project

In close coordination with UNEP, communication programmes were implemented in each country by a selected NGO with expertise in awareness-raising activities and the methyl bromide issue. The selected NGOs were a diverse group of agricultural, environmental and consumer NGOs that were approved by the National Ozone Unit (NOU) in each country. Participating NGOs were:

- > Global Village Cameroon;
- > Comité Nacional Pro Defensa de la Fauna y Flora (CODEFF), Chile;
- > Instituto Regional de Estudios en Sustancias Tóxicas (IRET), Costa Rica;
- > Fundación Agricultura y Medio Ambiente (FAMA), Dominican Republic;
- > Environment and Development Action (ENDA), Ethiopia;
- > Consumer Information Network (CIN), Kenya;
- > Coordination Unit for the Rehabilitation of the Environment (CURE), Malawi;
- > CARED (Nigeria);
- > Pesticide Action Network (PAN) Philippines;
- > Pesticide Action Network (PAN) Africa (Senegal);
- > Rice Exporters Association (REA), Thailand;
- > Environmental Conservation Association of Zambia (ECAZ); and
- > Tobacco Research Board (TRB), Zimbabwe.

UNEP also selected Pesticide Action Network North America (PANNA) to serve as the coordinating NGO, giving them the responsibility of preparing guidelines on how countries might implement the MBCP, liaising with all NGOs on a regular basis to monitor progress of the MBCP and promoting an exchange of information and sharing of experiences among all participating NGOs.

The selected NGO in each country agreed to undertake the following tasks in order to implement the MBCP:

- > Conduct a baseline survey to assess the level of awareness among methyl bromide users about methyl bromide and alternatives
- > Gather information on appropriate alternatives to methyl bromide, including the results of Multilateral Fund demonstration projects,
- > Develop and disseminate awareness-raising materials, include UNEP materials (brochures, leaflets, etc.),
- > Organise workshops, meetings farmer trainings, on-farm demonstrations and other events targeting methyl bromide users,
- > Generate media coverage about the project (e.g. newspapers, radio, TV, crop association newsletters),
- > Conduct a final survey to determine whether awareness levels have increased as a result of the MBCP and to identify further activities that may be needed to replace methyl bromide.

The original time frame for this activity by the NGO was set at 6 months; which, as is discussed later in this document was far too short a time frame for the completion of project activities.

NGOs were to consult with National Ozone Units (NOUs) on a regular basis to get input from the NOU about proposed activities and to ensure that the MBCP was coordinated with other ozone protection activities in the countries. NGOs also agreed to consult with implementing agencies about effective alternatives identified in demonstration projects and highlight these alternatives in the MBCP. Two consultative NGO meetings were also held at the beginning and end of the project to provide an opportunity for NGOs to exchange information and experiences and to develop strategies for implementing the MBCP.

#### Overall Effectiveness of the Project

The activities and outputs of the MBCP in each country have been examined to determine whether all objectives were met, and to assess the performance of the NGO, and ultimately, the approach of the umbrella project. This evaluation was done by reviewing the final reports and other materials provided by each NGO outlining their main activities and the survey results of methyl bromide users before and after the communication programmes to assess whether awareness has been raised.

Based on a thorough evaluation of these materials, this report concludes that the NGOs were largely successful in all aspects of the MBCP, including developing and disseminating information, organising workshops and meetings and generating media coverage. While the approaches taken and outcomes achieved varied from country to country depending on specific circumstances, in almost all cases, each NGO implemented all required activities, delivered outputs and met the main objectives. As a result, the MBCP successfully raised awareness of methyl bromide users, disseminated results of demonstration projects and enhanced the capacity of NGOs and other agricultural organisations to promote methyl bromide alternative.

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In many cases, NGOs exceeded the objectives and reached out to methyl bromide users in creative and cost-efficient ways.

However, whilst looking at the overall effectiveness of the project, this report also examines the methyl bromide consumption trends of the countries before and after the MBCP (going beyond the objectives of the original project). Finally, it details project design flaws, which are captured in a 'lessons learned' component.

*The highlights of the NGO efforts are listed below:*

**> Survey results carried out before and after the communication programmes in all countries shows that the level of awareness of methyl bromide users increased as a result of the MBCP.**

When compared to the first survey, final survey results generally demonstrate that methyl bromide users had an improved understanding of methyl bromide's effects on the ozone layer, the international phase-out schedule and the availability of a range of methyl bromide alternatives. In several countries, less than 6 months after the end of official project activity, users are working to implement MB alternatives or demonstrations as a direct result of the MBCP. For example, CIN (Kenya) reported that 4 farmers had committed to evaluating methyl bromide alternatives in the 2002 season as a result of the MBCP's efforts, while TRB recruited 59 farmers who voluntarily conducted demonstrations of alternatives on their own farms. In some countries, survey efforts reached a significant percentage of methyl bromide users. IRET(Costa Rica) was able to interview five farms that used 587 tonnes of methyl bromide in 1999, representing 62% of total methyl bromide use in Costa Rica for that year. REA (Thailand) was able to get 170 responses for its first survey and 73 for its 2nd survey, involving a cross-section of major users across 10 provinces of the country.

**> All NGOs effectively produced and disseminated brochures and other information materials about the methyl bromide phase out, which played an important role in raising the awareness level of users.**

In most countries, methyl bromide users highly rated the overall effectiveness and usefulness of publications that were produced as part of the MBCP. Furthermore, the surveys carried out to assess awareness levels of users also provided important information on what should be included in the development of educational materials, to properly address information needed by methyl bromide users. Amongst the educational materials generated by the countries, it is estimated they produced over: 14,410 brochures and booklets; 11,000 posters and fliers; 3500 desk and wall calendars; 1,995 newsletters; 100 videos; 400 audiocassettes; 200 T-Shirts; 5000 stickers and two countries developed an e-mail network information distribution system. There were also an unspecified number of pens, blotters and other paraphernalia produced.

<sup>1</sup> Some countries did not properly quantify what was produced, therefore only absolute figures obtained from the countries are included here, though in truth numbers will actually exceed what is listed here.

NGOs extensively used existing agricultural networks to widely disseminate their awareness materials in a cost-effective manner, including farmers' annual congress, agricultural and commercial shows and many other relevant forums. ECAZ (Zambia) and the TRB (Zimbabwe) were particularly effective at doing this. In addition they copied and distributed UNEP educational materials as needed.

Annex 4 of this report shows some examples of the awareness materials generated by the NGOs during the MBCP.

- > **All NGOs successfully organised workshops, field demonstrations and other meetings that increased users' knowledge about the methyl bromide issue and provided an opportunity for users to gain hands-on, practical experience about various alternatives.** A total of 25 workshops were held and attended by nearly 800 participants in total, including methyl bromide users, government officials, farmers' association, pest control operators, NGOs, researchers and other key stakeholders. Surveys indicate that generally, participants gave positive feedback on the organisation of the workshops and learned new and useful information about alternatives.

Many meetings, field days, seminars and presentations were also organised by the NGOs. For example, the TRB (Zimbabwe), organised two methyl bromide alternatives field days with 100 farmers in attendance, and four field days to demonstrate tobacco seedbeds, attended by over 200 farmers, to give them the opportunity to learn more about the alternative seedbed technology in a practical, hands-on manner. PAN-PHIL organised 6 workshops on methyl bromide alternatives with a total of 229 participants, effectively reaching the major methyl bromide users and pest control operators in the Philippines. ENDA-Ethiopia organised a collaborative awareness exercise with an innovative methyl bromide alternatives project with the Ethiopian Tobacco Enterprise (a major methyl bromide consumer in the country), which focused on evaluating solarisation and soil amendments.

- > **Many NGOs were successful in generating national media coverage about the MBCP (newspaper, radio, TV). They effectively raised awareness among the general public and methyl bromide users about methyl bromide alternatives and the results of demonstration projects.** Through media activities, it can be estimated that tens of thousands of methyl bromide users and members of the general public were informed about the methyl bromide phase out and methyl bromide alternatives through the MBCP. Indeed there did appear to be an impact on behaviour, as 10 of the 13 countries exhibited a downturn in methyl bromide consumption since the MBCP (see section 5 of this report). The amount of press coverage on the methyl bromide issue varied from country to country, depending on the country situation and the strategies employed by the NGOs. Most NGOs were successful in publicising the programme in national newspapers, agricultural journals, radio and in some cases on TV. For example, IRET generated a great deal of national media coverage in Costa Rica, where eight radio channels covered the methyl bromide issue, five newspapers wrote articles and the Government TV station and the main TV news report ("7 dias") did programmes on the topic.
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In many cases, NGOs provided information about alternatives identified in demonstration projects, especially those projects located in their own respective countries, in brochures, fact sheets and other educational materials. An equally effective approach taken by many NGOs was to have presentations about the demonstration project at workshops or to organise field visits where users could see how alternatives worked. The major focus of the workshop organised in Chile by CODEFF, for example was a presentation by the Ministry of Agriculture about the results of the Institute for Agricultural Research (INIA) demonstration project, which generated a significant amount of interest among methyl bromide users. ECAZ (Zambia), IRET (Costa Rica) and the TRB (Zimbabwe) were also able to show users practical 'hands-on' examples of how alternatives might be implemented.

- > **In all countries, the MBCP enhanced the capacity of NGOs to promote methyl bromide alternatives and also brought together a wide range of stakeholders.** The organisation of meetings and workshops proved to be especially important in improving coordination among all methyl bromide stakeholders and building the capacity of all organisations involved. ENDA-Ethiopia's efforts demonstrate this point very compellingly - as a result of the MBCP in Ethiopia, and the impression that the efforts of this NGO made on stakeholders, a formal network of all methyl bromide stakeholders was created to identify future actions needed to replace methyl bromide. Several other NGOs also cited enhanced cooperation with their NOUs since participating in the MBCP (eg. CODEFF of Chile, CURE of Malawi, PAN-Philippines, ECAZ of Zambia, TRB of Zimbabwe). The MBCP also provided a unique opportunity for agencies and farmers to learn more from NGOs' skills and expertise, and for NGOs to increase their knowledge, networks and outreach capabilities.
- > **The MBCP appears to have a real impact on the rate of methyl bromide phase out of participating countries.** Therefore in ten of the thirteen countries, namely Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Philippines, Zambia and Zimbabwe, there are decreases in methyl bromide consumption in the time since the MBCP activities began. In six of the countries (Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Philippines and Zimbabwe), the year of the MBCP marks a distinct change in consumption trends from previous years, such that the country is pulled significantly into compliance at or below their freeze consumption baselines. These positive impacts observed in countries are likely due to the supportive role the MBCP lent to the on-going investment and demonstration methyl bromide projects in the countries. By sharing the lessons learned and the successes of other phase-out projects, it is likely that the impact of the investment projects was enhanced, and there was more effective and widespread replacement of methyl bromide across consuming sectors. This makes a strong argument for continued partnering of such awareness activities with on-going investment activities geared to methyl bromide phase out.

Another long-lasting benefit of the MBCP is helping to get governments to sign the Copenhagen Amendment. Four countries in the MBCP that had not signed Copenhagen Amendment when the MBCP was initiated are Ethiopia, Dominican Republic, Philippines and Zambia. At the end of the MBCP in 2001, two of these four countries, the Dominican Republic and the Philippines, had ratified the Copenhagen Amendment. At the end of the MBCP in 2001, two of these four countries, the Dominican Republic and the Philippines, had ratified the Copenhagen Amendment, and stated that the MBCP had raised the profile of methyl bromide issues.

#### Lessons Learned and Next Steps

While NGOs were quite successful in meeting the objectives of the MBCP, important lessons have been learned from this project that are relevant for future activities and projects in the future. This is especially the case since this is the first project under the Multilateral Fund utilising the expertise of NGOs. Based on feedback received from the NGOs and participants during the course of the MBCP, as well as consultations during the Second Consultative Meeting of NGOs under the Methyl Bromide Communication Programme (16-18 September, 2002), the following are key lessons learned from this innovative project:

**1). More time was needed for the NGOs to implement the MBCP.** The time needed to carry out the various activities under the MBCP was woefully underestimated in the original project design. Initially, total project was set at 12 months, where 4-6 months were to be spent with UNEP and PANNA working with NOUs to help them finalise their nomination of NGO for the project participation. The remaining 6-8 months then could be dedicated to the execution of MBCP activities by the NGO. However, in several cases, getting the NOUs final approval and nomination of the NGO was actually a far lengthier process than anticipated. Further, particularly when one considers the geographical and socio-political barriers to easy outreach in some of the countries, 6 months was really too short a time for the NGO to properly implement the MBCP. Many NGOs commented that it was extremely difficult to implement a communication programme in such a short time and this was especially true in those countries where there are infrastructural and other types of problems. Also, some countries stated that extra time was needed to translate surveys and awareness materials into local languages to make them usable and understandable. Then the actual execution of the surveys took considerable time, as several NGOs had to use face-face visits to get responses from users, and/or spend considerable time with phone/fax follow-up obtaining information. The MBCP involved the implementation of many awareness-raising activities (media coverage, information dissemination, workshops), which would do well to be sustained over a longer period of time in order to have a major impact. Many of the people giving feedback also stressed the need for continuation of the MBCP to provide the assistance needed to help growers switch to alternatives.

**2). The survey forms were too complicated for users in some sectors, and, in the case of companies or large consumption private enterprises, sometimes solicited information considered confidential.** Some NGOs felt that the surveys were not easily understandable by users (particularly rural farmers), so that the NGO had to spend considerable time working with respondents to complete the surveys. It was felt that in the future surveys should be designed by the NGOs themselves, based on a criteria set by UNEP. Some private enterprises simply could or would not share information they felt was sensitive.

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**3). Credible technical information and practical field demonstrations of alternatives was very important in persuading growers to seriously consider alternatives.** Many of the experiences with the MBCPs demonstrated the importance of the NGOs having credible technical information about alternatives that are appropriate for the farmers' specific situation. Only relying upon general information and awareness-raising activities does not go far enough. This was reflected in many survey responses, where respondents gave very favourable feedback to technical information and demonstrations, which provided them with information, or skills they could use. Respondents in all countries also repeatedly requested more technical information and assistance to help them in identifying and adopting alternatives, so this appears to be the area where more focus is needed in the future. In some cases, however, NGOs stated that a simplification of technical materials is necessary to reach certain, less literate stakeholders. Translation issues, as aforementioned, were also sometimes a complication to information sharing.

**4). NOU participation and cooperation with the NGOs in the MBCP varied widely from country to country.** In a few cases, NGOs reported that political sensitivities sometimes played a part in keeping the NOU aloof of the MBCP activities. Other NGOs reported that due to the extensive travel about the rural areas of their country involved in carrying out the MBCP, some NOUs simply could not afford the time away from their desks in the city capitals to become a part of many MBCP events. In some cases, overloaded NOUs were simply glad for assistance in carrying out national awareness on ODS issues, and turned their attention to other duties, allowing the NGO to take the lead on much of the work.

**5). In-country demonstration projects or access to demonstration experts greatly enhances the impact of the MBCP (and vice-versa), such that there should be formal partnering of future MBCP activity with on-going demonstration projects.** The MBCPs of Zambia, Zimbabwe, and Costa Rica are evidence of this, as the NGOs in these countries got far more stakeholder interest, commitment and in some cases actual changes of behaviours in the use of MB. Even if actual 'hands-on' field day demonstrations are not possible, even access to an expert or results from another demonstration project (eg. in the case of Chile and Ethiopia) can go a long way to getting stakeholder interest. Whilst some of the NGOs were able to partner and share information with other relevant on-going investment projects in their country, however, at the end of the MBCP, several NGOs suggested that future project designs should formally allow for partnering with in-country methyl bromide phase-out investment activity.

**6). The networking and information exchange among NGOs was important in developing and implementing the MBCP.** The role of PANNA in promoting an exchange of information among the NGOs was important in building NGO capacity on this issue and in giving NGOs new ideas for how to go about developing the project. The NGO Consultative Meetings also proved to be invaluable in helping NGOs further develop their strategies and in learning more about how the methyl bromide issues were being tackled in other countries. In many cases, NGOs learned important information from each other (for example, about alternatives being used in one country that could be appropriate for their country, strategies for implementing the project, etc.) and also exchanged information materials or other resources that can help them in their project. However, the observed effect of the early withdrawal of PANNA from project activities, together with the fact that the MBCP is finite, indicates the need for a more permanent support system of the NGOs. Indeed, there was an error made in selecting a developed country NGO to act as a support to the developing country NGOs which, outside of the MBCP activity, did not have its own in-house methyl bromide programme. And so when MBCP funding ran out due to the delays in the nomination process, a key part of the

support for the developing country NGOs was lost. A permanent network would link global NGOs and experts, and enable NGOs to continue their work in supporting MB phase out. There might also be a closer linkage forged with the UNEP Global Communication Strategy as well as the Regional NOU Networks of UNEP.

**7). The financial resources provided for each NGO was generally inadequate to cover the actual logistics involved in carrying out the required activities of the MBCP.** The MOU for each NGO to carry out national activities was for US\$12,000. NGOs spent a considerable part of these resources on in-country travel, translation of the surveys and some materials into local languages or dialects, media coverage, and in some cases even incentives to encourage workshop participation (particularly where long distances were involved and participants needed per diems). This was not taken into consideration in the original project budgets for countries. Also the production of awareness materials such as coloured brochures and videos was particularly taxing on the NGOs budget. In the future there must be more careful assessment of possible expenses that might be incurred in implementing such programmes in developing countries which are often large in size, of limited infrastructure, and with widely dispersed stakeholders.

Methyl bromide users who participated in the MBCP in all countries repeatedly identified the need for continued awareness-raising activities and technical assistance to help them adopt methyl bromide alternatives. NGOs and participants in the MBCP have emphasised the importance of building upon the momentum created by the MBCP and the need to continue these types of activities over the long term to ensure that methyl bromide use is curtailed as mandated by the Montreal Protocol phase-out schedule.

### ***Conclusion***

Despite the need for improvement in the design of the NGO Methyl Bromide Communication concept, it is evident that there is considerable merit in the approach. This first round of MBCPs shows quite clearly that NGOs, even in poor developing countries, have great potential to influence users of methyl bromide in their countries, and positively impact on the countries phase out of methyl bromide. This is largely due to the fact that NGOs, unlike the NOU, can channel their full attention into the business of reaching out and educating farmers on relevant issues and alert them about the results of on-going projects on methyl bromide phase out, making significant penetration into the consuming sectors. The NGO is also invaluable in reaching the rural farmer or user, and giving the level of attention necessary to educate these types of stakeholders.

NGOs have the potential to greatly enhance the impacts of any demonstration and investment phase out projects, and so have a very real and unique role to play in the total phase out of methyl bromide. However, they cannot fulfil their potential without further technical and financial support of the Multilateral Fund, so that they might work in a more formalized relationship with the demonstration and investment project activities in their countries, and enhance the impact of such projects. As UNEP is currently in the process of redefining the approach and context of the regional ODS Officers Networks, as well as moving forward with the Global Communication Strategy, a likely way forward might be to incorporate NGO networking with the already-existing regional ODS Officers Networks.

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## 2.0 - OVERVIEW OF THE MBCP AND THE PURPOSE OF THE SYNTHESIS REPORT

### 2.1 *Project Goals, Objectives and Outputs*

UNEP's project entitled "Methyl Bromide Communication Programme", was submitted and approved by the Executive Committee to the Montreal Protocol at its 30th meeting (ExCom 30). The major goal of this project was to assist ten developing countries in meeting the 2002 freeze in methyl bromide and the subsequent reductions and phase out. This was also the first project under the Multilateral Fund to utilise the expertise of NGOs in phasing out ozone-depleting substances. More than a year later, a second set of communication programmes in 3 additional countries was approved at the 34th ExCom in July 2001.

The project's general objectives were:

- > To raise awareness among methyl bromide users in Article 5 countries about the methyl bromide phase out, the availability of alternatives and actions that can be taken to phase it out,
- > To enhance the capacity of agricultural organizations and non-governmental organisations in promoting methyl bromide alternatives, and
- > To disseminate information to farmers about effective alternatives that have been successfully identified in ongoing demonstration projects by other implementing agencies.

Originally the entire project was expected to take a year, and it was envisioned that about half of this time would be spent nominating a suitable NOU and designing survey questionnaires to deduce local levels of awareness. The rest of the project would be spent allowing the NGO to carry out the MBCP itself.

Pesticide Action Network – North America, or PANNA was selected to be the global NGO to work with the NOUs to find acceptable NGOs for the MBCP, and designed the survey questionnaire. The countries selected for participation in this project were those countries that had significant or growing methyl bromide consumption, and in which low levels of farmer/user awareness about the methyl bromide phase out and available alternatives were indicated by the NOUs. The ten originally selected countries were: Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Philippines, Thailand, Zambia and Zimbabwe. Cameroon, Nigeria, and Senegal were the final additions to the MBCP exercise.

Communication programmes were implemented in each country to educate methyl bromide users about the methyl bromide phase out, results of demonstration projects and how to adopt alternatives. The communication programmes were implemented by non-governmental organisations (NGOs) or agricultural organisations in each country, which have strong links to methyl bromide users and the ability to conduct outreach to these users effectively. Components of each communication were:

- > Using existing agricultural networks, training programmes and NGOs
- > Generating media coverage to raise awareness
- > Holding farmer-to-farmer exchanges and meetings to show how alternatives work
- > Developing and disseminating information materials

To ensure that the maximum number of methyl bromide users were reached, the following stakeholders were to be involved: methyl bromide users, farmer organizations, agricultural organizations, extension agencies and other NGOs that work closely with methyl bromide users. The project proposal stressed the importance of UNEP and NGOs consulting with the National Ozone Unit (NOU) in each country on the development and implementation of the communication programme.

The approved project lists the following expected outputs:

- > Increased awareness among methyl bromide users about the methyl bromide phase out and the existence of alternatives,
- > Increased capacity of agricultural organizations and NGOs in promoting methyl bromide alternatives
- > Surveys of methyl bromide users in target countries before and after the communication programmes have been implemented to assess whether awareness has increased and identify remaining barriers preventing adoption of alternatives
- > Report prepared by UNEP outlining and evaluating the specific activities and organizations involved in raising awareness in the target countries.

*The ExCom approved \$25,000 per country,  
and the distribution of monies was as follows:*

Item	Amount Approved (US\$)
Sub-contracts with cooperating agency PANNA	5,500
Sub-contracts for local organisation (for support of the participating NGOs national activities)	12,000
Meetings / conferences (for travel of the NGO to two consultative meetings at the start and end of the project)	5,500
Sundry	2,000
Total	25,000

## ***2.2 Purpose of the Synthesis Report***

This report serves as the final output of UNEP's MBCP project and evaluates the effectiveness of each NGO's MBCP and the overall effectiveness of the project in achieving its major goals and objectives as outlined above. This report examines whether the communication programmes raised awareness among methyl bromide users about the methyl bromide phase out and alternatives, enhanced the capacity of NGOs to promote methyl bromide alternatives and disseminated the results of ongoing demonstration and investment projects being implemented under the Multilateral Fund. This report evaluates the first set of communication programmes that were approved by the Executive Committee. A full evaluation is carried out for the thirteen countries that have completed the MBCP.

This evaluation is done by examining the final reports, and other materials provided by each NGO, which outline their activities and achievements in major components of the MBCP, as well as the results of their surveys of methyl bromide users before and after the communication programmes to assess whether awareness has been raised. The final report prepared by PANNA summarising and analysing the results of the communications programme, also provided an important source of information for this report. The communication programmes' impact is also evaluated by the press clippings and other media coverage that was generated by countries during the MBCP, and the extent of the development and dissemination of educational materials (e.g. brochures, videos, workshops proceedings) within countries. And, although this was not one of the indicators of success in the original project design which was approved, there is an analysis of methyl bromide consumption trends.

In subsequent sections, this report first describes how the Methyl Bromide Communication Programmes (MBCP) were organised, outlining the roles and responsibilities of UNEP, NGOs, NOUs and other major stakeholders in this project. Next, the activities and outputs of the MBCP in each country are examined to determine whether all objectives were met and to assess the performance of the NGO. Within this latter section, the activities and role of PANNA as the coordinating NGO are also evaluated. Based on these assessments, together with a trend analysis of methyl bromide consumption in the countries, the project's overall impact is evaluated to determine if and how the project helped developing countries in the process of replacing methyl bromide. Lessons learned from carrying out the MBCPs are then highlighted, providing invaluable information for organising future awareness-raising and training activities to promote the phase out of methyl bromide and other ozone-depleting substances. The report concludes by outlining further activities that project participants have identified in each country as necessary to replace methyl bromide, building on the momentum created by the MBCPs.

### 3.0 ORGANISATION OF THE PROJECT

#### Selection of coordinating NGO

One of the first steps in the organisation of this project was the selection of a NGO to coordinate the activities of the MBCP in all countries. Pesticide Action Network-North America (PANNA) was selected by UNEP to serve as the coordinating NGO for the project due to PANNA's longstanding involvement and expertise in methyl bromide issues, and strong linkages to environmental and agricultural NGOs in developing countries. As the main liaison with the NGOs, PANNA's primary role was to provide assistance and guidance to the NGOs, and monitor the communication programmes to ensure that they were being implemented effectively and in a way that would meet the awareness-raising objectives. PANNA's coordinating activities, done in close consultation with UNEP, were intended to promote an exchange of information and experiences and to build a network of NGOs working collaboratively on methyl bromide phase out, which was very important to the project's long-term objective of building NGO capacity on the methyl bromide issue. PANNA's other responsibilities were:

- > To assist the country NOUs and identify possible NGOs or agricultural organisations in each participating country to implement communication programmes.
- > Develop project guidelines for use by participating NGOs.

- > Develop a survey to be used by NGOs to assess awareness of users, methyl bromide use, knowledge of risks and alternatives, etc.
- > Develop a final report and evaluation of the activities and results of the communication programmes in all ten countries.

#### *Selection of NGOs*

In July 2000, PANNA worked with UNEP to identify agricultural/ environmental NGOs or other organisations that had strong, credible links with methyl bromide users, as well as extensive experience in implementing awareness-raising programs. This involved consulting with stakeholders in each country to identify possible NGOs and determining whether the NGOs had the expertise and ability to carry out the MBCP. After this work, PANNA and UNEP identified several possible NGOs for each country. In November 2000, UNEP consulted with each NOU to get their input on which NGO to select. In many cases, the NOU agreed with the recommendations of UNEP and PANNA, since they had worked with the NGOs in the past. In a few cases, the NOU selected another NGO they felt would be better qualified to carry out the project. This process led to the selection of a diverse and qualified group of NGOs, which included agricultural, environmental and consumer organisations (see Annex 1 for a list and profile of participating NGOs).

#### *Participating NGOs were:*

- > Global Village Cameroon;
- > Comite Nacional Pro Defensa de la Fauna y Flora (CODEFF), Chile;
- > Instituto Regional de Estudios en Sustancias Tóxicos (IRET), Costa Rica;
- > Fundación Agricultura y Medio Ambiente (FAMA), Dominican Republic;
- > Environment and Development Action (ENDA), Ethiopia;
- > Consumer Information Network (CIN), Kenya;
- > Coordination Unit for the Rehabilitation of the Environment (CURE), Malawi;
- > CARED (Nigeria);
- > Pesticide Action Network (PAN) Philippines;
- > **Pesticide Action Network (PAN) Africa (Senegal);**
- > Rice Exporters Association (REA), Thailand;
- > Environmental Conservation Association of Zambia (ECAZ); and
- > Tobacco Research Board (TRB), Zimbabwe.

Some of the NGOs, particularly CODEFF, IRET and the TRB had experience in methyl bromide activities prior to the MBCP. The performance of these NGOs as compared to those with no prior experience in methyl bromide is examined later in this document.

#### *Development and Implementation of MBCPs*

Through a Memorandum of Understanding with UNEP, of the initial 10 participating NGOs, each was given the responsibility for developing and implementing the communication programme in their respective country over a six-month period, from January to June 2001. Officially, the project was approved by the Executive Committee in March 2000 and was scheduled for completion in March 2001. However, the official completion of the project was initially delayed to June 2001 because of the time needed for UNEP, PANNA and NOU to agree on the NGO and the time needed for UNEP to establish the Memorandum of Understanding with each NGO. This pattern of delay was repeated in the latter three countries added at ExCom 34. Each NGO was expected to carry out the following activities:

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- 1/ Identify major methyl bromide users and major crops/commodities where methyl bromide is used,
- 2/ Conduct surveys of at least 30 methyl bromide users before and after the communication programme to assess the awareness level. These surveys were supposed to give each NGO a better idea of methyl bromide users in their country and how to develop the MBCP in order to educate these users about how to adopt alternatives. Annex 2 of this report contains samples of the survey forms used by the NGOs.
- 3/ Gather information on appropriate alternatives to methyl bromide, including the results of Multilateral Fund demonstration projects,
- 4/ Develop and disseminate awareness-raising materials, including UNEP materials (brochures, leaflets, etc.),
- 5/ Organise workshops, farmer trainings, on-farm demonstrations and other events targeting methyl bromide users
- 6/ Generate media coverage about the project (e.g. newspapers, radio, TV, crop association newsletters),
- 7/ Identify, communicate with and involve government agencies, crop associations, export associations, agricultural organisations and other relevant organisations in all project activities.

Each NGO learned about the methyl bromide issue from the Guidelines prepared by PANNA that consisted of fact sheets and attachments giving an overview of the programme, facts about methyl bromide, alternatives to methyl bromide, international actions on methyl bromide, NGO Role/Tips for implementing the project and further information and resources. NGOs prepared work plans and timetables for implementing the project, which were reviewed by PANNA and UNEP. NGOs were also provided with all of UNEP's methyl bromide awareness- raising materials and were encouraged to use these materials as much as possible throughout the MBCP. UNEP also provided NGOs with evaluation forms that could be given to participants to evaluate workshops held and information materials that were developed.

Throughout the project, NGOs submitted monthly reports to PANNA highlighting their major activities and progress in carrying out the work plan. At the end of the project, each NGO submitted a final report that summarised their activities, survey results and evaluated the effectiveness of the project.

#### Consultation with NOUs and Implementing Agencies

NGOs were expected to consult with NOUs on a regular basis to obtain their input and involvement in the project and to ensure that the MBCP was coordinated with other ozone protection activities in each country. NOUs also participated in workshops, meetings or other activities that were held as part of the MBCP. Implementing agencies provided information about alternatives identified in demonstration projects being carried out under the Multilateral Fund, especially those projects in their respective regions. NGOs used this information in educational materials and workshops and in some cases worked closely with implementing agencies that were carrying out demonstration projects in their respective countries.

#### Two Consultative NGO Meetings

Two consultative NGO meetings were held at the beginning and end of the project. These meetings were orchestrated to help NGOs develop and implement the MBCPs, as well as foster an exchange of experiences and collaboration among NGOs working on methyl bromide phase-out activities. The First Consultative NGO Meeting was held from 26-27 February 2001 in Paris, France and was attended by eleven NGO representatives (including PANNA), representatives from UNEP and a representative from UNIDO. In

In addition to fostering an exchange of information, clearly defined strategies for implementing the MBCP were developed and agreed to, along with a timetable for each NGO to execute the project taking into account countries' circumstances. Through presentations from each NGO, participants obtained a better picture of the challenges/opportunities facing each country with the methyl bromide phase out given the political, economic and other factors.

The second consultative NGO meeting was held from 16-18 September 2002, in Nairobi, Kenya at the end of the project. The purpose of this meeting was to review the status of the activities undertaken by NGOs since the first meeting, evaluate the barriers to completion of outputs and obtain input from NGOs on how to improve the programme and make it more sustainable and replicable. At this second meeting representatives from 13 NGOs (including those NGOs from additional countries added later to the project) and UNEP representatives were able to attend.

Key outputs from this meeting included the evaluation of the MBCP experience by the NGO. At Annex 5 of this document, the individual responses of those NGOs covered by this Synthesis Report are compiled in tabular form; and more detailed discussion of this information is covered in Section 6 ('Lessons Learned') of this report.

In addition, during the 2nd Consultative Meeting, participants discussed potential forms of future support that might be needed by the NGOs, if they wished to continue awareness raising activities for the phase out of methyl bromide. Since there was considerable support for better communication between NGOs, so that there could be better sharing of experiences, mutual enhancement of expertise and the like, discussions focussed on the Potential Strategies for the Setting up of an NGO MB Communications Network. The participants listed the possible parameters and characteristics of a potential Network. Details of this will be elucidated in Section 7 ('Future Activities') of this report.

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## 4.0 - RESULTS OF THE MBCP IN EACH COUNTRY

This section will provide an overview of the MBCP carried out in each country and a brief evaluation of whether it achieved the project's goals and objectives. All information in this section is based solely on the reports submitted by the NGOs. Section 5.0 of this report will do a more comprehensive assessment of the impacts of the MBCP in countries.

*For each country's MBCP, the following information is summarised:*

- > Results of the first survey that was carried out to gain a better understanding of methyl bromide use, the awareness level of users and to develop ideas for how to implement the MBCP.
  - > Major activities and events carried out by the NGO for each component of the MBCP (e.g. developing and disseminating information, generating media coverage, and organising meetings/workshops)
  - > **Results of the final survey to assess whether awareness levels were raised and to identify further activities that may be needed.**
  - > Evaluation of whether the main objectives of the project were achieved based on the above information.
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## PROFILE OF THE THIRTEEN PARTICIPATING NGOS FOR THE METHYL BROMIDE COMMUNICATION PROGRAMME (MBCP)

### Global Village *Cameroon*

GVC was founded in 1996 as a countrywide organisation of committed activists. As a non-profit organisation, GVC's prime objective is to promote environmental protection and sustainable development in analysing and finding possible solutions to national problems. It also assists communities in solving their poverty and living problems for a sustainable development. GVC's areas of works are energy, environment, poverty and living conditions of citizens.



An evaluation of the role of PANNA as the coordinating NGO for this project is also provided at the end of this section.

## 4.1 CAMEROON

### NGO: Global Village Cameroon

#### Conducting the first survey

34 stakeholders from various sub sectors were surveyed: commodity / Post harvest (30%), structural disinfectants and hygiene (20%), quarantine and pre-shipment (15%), NGO's (10%), miscellaneous persons involved in ozone protection (25%). Telephone and personal interviews were used to gather information, which was extended to include a review of actual consumption levels in Cameroon. Methyl bromide is used in the country mostly in: commodity/post harvest fumigation of stored products like maize, cotton, cocoa, coffee, palm kernels (about 56% end users); (ii) Structural disinfestations /public hygiene and sanitation (about 33% end users); (iii) Quarantine and pre-shipment (QPS) (about 08% end users; (iv) Soil pre-plant treatment by SITABAC for tobacco seedling production and tobacco leaf fumigation (about 03% end users). Most end users had heard of some possible alternatives to methyl bromide like Phostoxin, Gastoxin, Megatoxin, Maltoxin and Phosphinon; however know-how on the use of these alternatives is still very rudimentary, and alternatives are not widely implemented. More training and finances are needed for them to be prepared for the phase out by the year 2015. Some users indicated that they prefer to cross the bridge to alternatives closer to the time that methyl bromide it is no longer available in the market. Most had heard about the destructive effects of methyl bromide on the Ozone layer; but felt that their immediate economic survival was more important. Widespread access and subsidy for alternatives and associated equipment is needed.

#### Developing and disseminating information materials

Global Village Cameroon (GVC) produced two types of awareness material, namely: a leaflet entitled " Sensitisation on Ozone Protection"; and a booklet entitled " Methyl bromide. Getting ready for the phase out". They also prepared a general report on the MBCP in Cameroon for circulation. Rather than publications, GVC focused on more personal interaction with stakeholders and the general public, as well as media campaigns.

#### Organising workshops and meetings

After the identification of the end users, activities were carried out to further sensitise them on the consequences of their continuous use of Methyl Bromide on the ozone layer and the possible repercussions of delayed action, precipitating an abrupt and unprepared turnover to substitutes when MeBr is off the market. These activities included:

- > person to person contact to have a better understanding of their responses to the questionnaire,
- > Organisation of one workshop (held in economic capital of Douala, October 2001 with approximately 35 participants).

For the workshop two experts from the ministry of agriculture prepared the didactic materials and made presentations, followed by a question and answer session. The activities of the workshop were covered by the provincial station of the Cameroon Radio and Television and some private newspapers.

#### Generating media coverage

GVC utilized both the print and electronic media in their MBCP media campaign. Specifically, they organized and participated in two radio interviews and press conferences, organized a drawing competition on the destruction of the ozone layer, and published articles in two private newspapers.

### Conducting the final survey

27 out of the original 34 persons were interviewed in the final survey to measure the impact of the MBCP in Cameroon. At the end of the MBCP 79% claimed to know about alternatives to MeBr. 4 end-users confirmed use of photoxin, 13 end users were using phosphoxin, 1 end user confirmed using both photoxin and phosphoxin, while 8 end-users admitted to knowing about alternatives but not having yet used them. GVC definitely enhanced the knowledge of local stakeholders, as well as their own capacity to carry out awareness activities. They were able to gain a greater appreciation for the complexities of the local consumption of methyl bromide across sectors, and offer suggestions on ways activities might be improved in the future.

### Evaluation

In carrying out the MBCP, Global Village Cameroon made important ties with the private sector, carrying out extensive field visits to 34 end users to survey their consumption of methyl bromide which was beyond the scope of the original project parameters. The outreach to government also meant that the NGO was able to report that many of the original sceptics of the first survey were now more open to trying alternatives before the global ban came into force. By bringing together importers (there are two major ones), end users, regulators, as well as other relevant associations, the MBCP was able to bring the message to all players permitting a simultaneous exchange of dialogue on the issue, and on the way forward for Cameroon. Already methyl bromide has been removed from the list of homologated pesticides authorised for use in Cameroon, as market pressure against agricultural products produced with methyl bromide increases.



## Comite Nacional Pro Defensa de la Fauna y Flora (CODEFF) *Chile*

CODEFF is the oldest and most experienced NGO in Chile, with 3,500 members and 8 branch offices. CODEFF has been involved in methyl bromide activities for many years, including organising several national conferences with the government of Chile (on use and alternatives to methyl bromide) and attending numerous Montreal Protocol meetings.



## 4.2 CHILI

### **NGO: Comité Nacional Pro Defensa de la Fauna y Flora (CODEFF)**

#### Conducting the first survey

In March 2001, CODEFF carried out 70 in-person surveys of users in three different locations and received very detailed responses. The survey showed that tomato growers were the most significant users of methyl bromide, followed by seedling producers and farmers growing assorted vegetables. Most importantly, methyl bromide use increased significantly among survey respondents from 500 kilograms in 1998 to 1750 kilograms in 2001, probably due to increased farm size/productivity and increased sales by methyl bromide producers before the 2002 freeze. The survey demonstrated that respondents had very low awareness about the methyl bromide issue. 75% of respondents were not aware of methyl bromide's impacts on the ozone layer, most did not know that it is being phased out internationally and 61% didn't know about methyl bromide alternatives.

#### Developing and disseminating information materials

CODEFF developed a colourful and professional 12-page brochure in Spanish "Bromuro de Metilo: Su Eliminación es Nuestro Compromiso" which provided information on methyl bromide's impact on the ozone layer, methyl bromide phase-out requirements and methyl bromide use and alternatives in Chile. One thousand copies of this publication were printed and distributed at CODEFF's workshops and meetings and to journalists, methyl bromide users, government institutions and other stakeholders.

#### Organising workshops and meetings

CODEFF organised two workshops to raise awareness on methyl bromide. The first workshop was held in April 2001 in the city of Talca, the capital of traditional agriculture in Chile, which is located 300 kilometres south of Santiago. The largest users of methyl bromide were the focus of this workshop, but more than 80 invitations were sent to a wide range of stakeholders. Forty-three people attended the workshop: participants were primarily methyl bromide users but also included government officials, NGOs, and journalists. The workshop consisted of a presentation by CODEFF about methyl bromide and ozone depletion, a presentation from the NOU about the government's policy on phase out of methyl bromide, a presentation by the Ministry of Agriculture about the Institute for Agricultural Research (INIA) demonstration project and the showing of videos developed by UNEP and IRET (Costa Rica). Many participants found the workshop to be very successful and the information materials to be useful. As a result, government officials requested that CODEFF organise a second workshop in late June, 2001. The second workshop was held in Arica at the University of Tarapaca, and was attended by some 40 farmers from the Lluta and Azapa valley, professors and researchers, government officials and the NOU. This workshop had a similar focus to the first workshop and also included a presentation by an agronomist from AFIPA (agrochemical companies' consortium), who discussed the regulation of methyl bromide and other pesticides in Chile.

#### Generating media coverage

CODEFF generated significant media coverage through the organisation of workshops. (eg. CODEFF sent press releases out to journalists two days before the workshop in April was held). This resulted in three radio stations covering the workshop and one newspaper running two extensive articles describing the proceedings and inclusive of photos and other background details about the methyl bromide issue.

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### Conducting the final survey

CODEFF conducted the final survey at the workshops, but still had a difficult time obtaining a desirable number of full responses. A total of 20 responses were received and evaluated. However, more than half of respondents received information or learned about methyl bromide from CODEFF, and the majority said that they learned more about methyl bromide as a result of the MBCP. The majority of respondents rated the overall organisation of the workshops as either very good or excellent, and also found the overall effectiveness of the written information (brochures, flyer, etc.) to be either very good or excellent. All respondents knew about the international phase-out schedule for methyl bromide at the time of the final survey, and said that their company should move towards alternatives. Respondents also expressed an interest in alternatives presented on the demonstration project carried out in Chile, and requested more data, technical assistance, training and workshops to implement alternatives.

### Evaluation

Although the number of respondents in the final survey was limited, the workshop evaluations indicate that the MBCP in Chile did appear to have an impact in raising users' awareness about methyl bromide, whilst increasing their knowledge about appropriate alternatives. CODEFF was particularly successful in organising workshops and using the results from the INIA demonstration project to raise awareness about alternatives. Indeed, respondents were very interested in learning more about some of the demonstration project's alternatives that were highlighted at the workshops. Written materials were widely disseminated and evaluated by respondents to be very effective in communicating useful information. Through these activities, the capacity of CODEFF and other agricultural institutions in Chile in dealing with methyl bromide alternatives has clearly been enhanced but much more work is needed to promote adoption of alternatives.

### EXAMPLES OF AWARENESS RAISING MATERIALS





## Instituto Regional de Estudios en Sustancias Tóxicas (IRET) *Costa Rica*

IRET has worked in farmer outreach and extension programmes since 1985. IRET was closely involved in the Multilateral Fund demonstration project in Costa Rica, which focused on melons and cut flowers.



### 4.3 COSTA RICA

#### **NGO: Instituto Regional de Estudios en Sustancias Tóxicas (IRET)**

##### Conducting the first survey

IRET, which has also been involved in implementing a demonstration project on methyl bromide alternatives, surveyed melon and cut flower growers, the major users of methyl bromide in Costa Rica. IRET was able to interview five farms that used 587 tonnes of methyl bromide in 1999, representing 62% of total methyl bromide use in Costa Rica for that year. The survey results indicated that methyl bromide use remained steady among most melon growers between 1998 and 2000. Generally, respondents only knew a few things about methyl bromide and ozone depletion, but all were aware that methyl bromide would be phased out internationally. Respondents also had knowledge of methyl bromide alternatives and all had tried some type of alternative, including solarisation, metam sodium and Telone. However, the growers participating in the survey identified a need for future assistance in implementing the alternatives.

##### Developing and disseminating information

IRET developed a short brochure with colour photos that focused on methyl bromide's effects on the ozone layer, the global phase-out schedule, methyl bromide use patterns in Costa Rica and the alternatives most appropriate for this country. The brochure was disseminated to melon and cut flower growers throughout Costa Rica and at their workshops (see below). IRET also developed a video "The Fifth Commandment, a Way to Preserve the Environment" about the methyl bromide phase out in Costa Rica which was distributed and shown at workshops.

##### Organising workshops and meetings

IRET organised two workshops to educate stakeholders about the methyl bromide phase out and alternatives. In May 2001, IRET and several co-sponsors (UNEP, UNDP, the Governmental Commission on Ozone and others) held a workshop for cut-flower growers. There were twenty participants, including ACOFLOR (national organisation of cut-flower farms), representatives from UNDP demonstration project and FAO, and agricultural researchers. Presentations focused on evaluating various alternatives to methyl bromide, examining the economics of alternatives and developing recommendations for assistance. IRET received very positive feedback about the workshop, with many participants commenting about how much new information they learned and how useful the workshop was in helping them develop a strategy for implementing alternative pest control methods. A second workshop was held for melon growers in June 2001 and was co-sponsored by UNEP, UNDP and other organisations and focused on methyl bromide alternatives. This workshop attracted some 47 participants; and finally, a lecture on MB issues was held that same month, with some 85 persons attending.

##### Generating media coverage

A very impressive amount of media coverage was generated about the methyl bromide issue and the MBCP. Eight radio channels, representing the main source of news on the radio, covered the methyl bromide issue and five newspapers wrote articles about this issue. On television, there was a special program in August 2001 by the Government TV and the main TV news report (7 dias) also covered the methyl bromide issue.

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### Conducting the final survey

The final surveys were conducted after the workshops were held. Respondents represented 30.3% of total methyl bromide consumption in Costa Rica. All respondents indicated now having a general knowledge about methyl bromide's effect on the ozone layer and the Montreal Protocol restrictions. All respondents also knew about various alternatives to methyl bromide, including the use of solarisation (75%), metam sodium (75%), Telone (62%), organic amendments (25%), and chloropicrin (25%). Respondents identified the need for more technical information (39%) and on-farm research (63%).

### Evaluation

The MBCP in Costa Rica had a major impact on raising awareness-levels due to the fact that it reached the largest users of methyl bromide. IRET's technical expertise and involvement in a UNDP demonstration project meant that the MBCP effectively brought together major methyl bromide users, government officials, researchers, NGOs and other important stakeholders, which in turn has led to good coordination between all of the stakeholders in promoting methyl bromide alternatives. IRET also was extremely effective in generating significant media coverage on all media channels (TV, radio, newspapers). These combined efforts have made an important contribution to helping growers make the transition to alternatives and in Costa Rica's overall efforts to meet the methyl bromide phase-out requirements.

### EXAMPLES OF AWARENESS RAISING MATERIALS





## Fundación Agricultura y Medio Ambiente (FAMA)

### *Dominican Republic*

FAMA has worked since 1995 to promote alternatives to agrochemicals and to ensure sustainable use of natural resources.



## **4.4 DOMINICAN REPUBLIC**

### **NGO: Fundación Agricultura y Medio Ambiente (FAMA)**

#### *Conducting the first survey*

After first translating the survey forms, FAMA conducted a very thorough survey among growers of cut flowers, tobacco, melons and fumigation companies, covering users responsible for nearly 85% of methyl bromide use in the Dominican Republic. According to the survey, flower growers' methyl bromide use has not changed since 1998 and is responsible for about 20% of national consumption. Methyl bromide is only used on one farm among the country's major tobacco producers due to the concerns about methyl bromide's price and the possible restrictions given the phase out in developed countries. Interestingly, FAMA's survey found that one large farm was responsible for most of the country's methyl bromide consumption (this firm imports methyl bromide from the US and consumes about 150 tonnes per year). The vast majority of respondents were aware of methyl bromide's impact on the ozone layer, the phase-out schedule, and methyl bromide alternatives and in most cases had tried using at least one alternative. Forty-five fumigation companies were identified as having the greatest need for information about methyl bromide alternatives.

#### *Developing and disseminating information*

FAMA developed a colourful 6-page brochure about methyl bromide issues in Spanish based upon information provided by UNEP and PANNA. One thousand copies of this brochure were distributed to farmers, companies, agrochemical distributors, government officers and other stakeholders. FAMA also sent general information about the methyl bromide project by e-mail to more than 50 NGOs, governmental offices, and other organisations. FAMA found the information material from UNEP, especially the Spanish-translated publications, to be very effective and successful and distributed copies of these materials at workshops and other meetings and used the content for several publications in the press. A special information packet, containing various background papers, articles and brochures about the methyl bromide phase out, was also sent to companies using methyl bromide.

#### *Organising workshops and meetings*

On May 11th 2001, FAMA held a workshop with the Association Nacional de Manejo de Plagas Urbanas about the methyl bromide phase out and alternatives. Seventy participants attended the workshop, including 60 fumigation companies (owners, managers, technical staff), representatives of companies selling fumigation products, government officials (Health Ministry and Natural Resources Ministry), and representatives from different hotels who use methyl bromide for structural fumigation. Technical presentations on an array of methyl bromide alternatives (e.g. biological controls and neem products) were made by university professors and other experts. Participants at the workshop concluded that there is a significant need for more information and workshops like the one FAMA organised, and fumigation companies agreed that they will try to switch to less dangerous products where possible and profitable.

FAMA also participated in a regional workshop co-sponsored by UNIDO, Junto Agroempresarial Dominicana (JAD), a national agricultural organisation, which presented the results of demonstration projects in seven countries in Latin America. A total of 80 people attended this workshop, including melon, tobacco and flower growers. FAMA actively participated in the discussion and distributed information material. In early June, FAMA also gave a presentation about methyl bromide at a one-day meeting about methyl bromide organised by JAD, which was attended by most methyl bromide users in the country.

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### *Generating media coverage*

FAMA focused on generating significant media coverage, resulting in eight articles in various publications, including an in-depth article in Listin Diario, a daily national newspaper with a circulation of 88,000, three articles in HOY (circulation of 50,000), and three articles in Mundo Ecologico. The UNEP video "Healthy Harvest" was shown on the Dominican television Channel 15 programme "Mundo Ecologico" on 15 April 2001. FAMA also participated in a radio interview (Environmental Education Programme in Radio Educativa Dominicana) focusing on the problem of methyl bromide applications.

### *Conducting the final survey*

In June/July, FAMA conducted the final survey, receiving responses from cut flower and tobacco companies. All flower companies surveyed (all of whom had participated in the first survey) had received information from FAMA about methyl bromide, learned something new about alternatives, and had heard about the methyl bromide issues through the media (TV and newspaper). Importantly, the majority of the companies surveyed said that this information would influence their decisions on methyl bromide and the vast majority said that their company is already or would be trying different alternatives. Tobacco companies (who also participated in the first survey) also said that they heard about the methyl bromide issue in the media (newspapers) and that their companies already were using or would start using methyl bromide alternatives. Both flower and tobacco growers are concerned that alternatives are not as cheap or as effective as methyl bromide and identified the need for further research and trials.

### *Evaluation*

The survey results and activities indicate that FAMA was effective in raising the awareness of methyl bromide users and helping them in identifying alternatives. FAMA was particularly successful in generating significant media coverage in national newspapers and TV, which proved an important channel for reaching methyl bromide users. FAMA also effectively coordinated activities with the UNIDO demonstration project, which enhanced the impact of the awarenessraising projects and further helped to build the capacity of FAMA and other organisations in promoting methyl bromide alternatives.

## EXAMPLES OF AWARENESS RAISING MATERIALS





## Environment and Development Action (ENDA-Ethiopia) *Ethiopia*

ENDA-Ethiopia is mainly focused on providing emergency relief alongside long-term development to address food security and help rural families achieve sustained and secured access to food.



## **4.5 ETHIOPIA**

### **NGO: Environment and Development Action (ENDA-Ethiopia)**

#### *Conducting the first survey*

In Ethiopia, methyl bromide is mainly used for the treatment of stored grain products and in the tobacco sector. After consulting with a wide range of stakeholders (e.g. NOU, National Tobacco Enterprise), the first survey was carried out by seven chemistry students who visited 35 users to collect data. Organisations surveyed included government agencies, private fumigation companies, export companies and private commercial firms located within a 500 km radius of Addis Ababa. The survey found that while fumigation companies and government agencies had adequate knowledge of methyl bromide's risks, the users' knowledge of the risks and health impacts were very low. Most of the users knew that methyl bromide use would be restricted. With the exception of one government tobacco enterprise that was experimenting with solarisation, users were not aware of methyl bromide alternatives. The survey also found that between 5-7 tonnes of methyl bromide was used from 1998-2000 and that a sharp decline in methyl bromide use compared to what was used in 1991-1995 period was due to unavailability of methyl bromide in local markets and new government regulations that make it difficult for companies to import methyl bromide.

#### *Developing and disseminating information materials*

ENDA-Ethiopia produced a 15-page brochure "Methyl Bromide Use and Phase Out in Ethiopia", and two flyers: "Alternatives to Methyl Bromide in the Context of Ethiopia" and "Brief Notes on Methyl Bromide Alternatives", which provide information on methyl bromide uses and alternatives in Africa. Videocassettes about methyl bromide alternatives were also developed. These materials were distributed to various stakeholders and disseminated at workshops and meetings, including the June meeting of the Crop Protection Society of Ethiopia (attended by experts and practitioners from across the country).

#### *Organising workshops and meetings*

ENDA-Ethiopia started the MBCP by holding meetings with a wide range of stakeholders (e.g. governments, fumigation companies, commercial farms) and interviewed a total 44 people. In addition, ENDA-Ethiopia held a total of two workshops primarily target to methyl bromide users. One workshop, held on 21 June 2001 in Addis Ababa, was attended by 25 representatives from the NOU, other government departments, agricultural research organisations, tobacco companies, grain companies, universities, private fumigation companies, pesticide importers, NGOs and farmers' associations. The workshop provided basic information about the methyl bromide phase out and alternatives. Through discussions held, an action plan for future activities was developed and agreed upon, with specific recommendations to: establish a network of stakeholders to focus on methyl bromide phase out, solicit funds for methyl bromide phase-out activities, and accelerate efforts to ratify the Copenhagen Amendment. An on-farm demonstration was also organised with the Ethiopian Tobacco Enterprise (one of the largest methyl bromide users), to show how solarisation, soil amendments and other alternatives can be successfully used as alternatives to methyl bromide.

The second workshop, which was attended by participants of the first workshop, primarily focused on establishing the formal network among stakeholders. It was agreed that all organisations attending the workshop would be part of this national network, and that the National Ozone Unit would chair the network. ENDA-Ethiopia and other

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stakeholders would comprise the executive committee, and the formal network would as a whole fall under the umbrella of the Ethiopian Environmental Protection Agency. Two workshop proceedings outlining the results of these workshops and the results of the on-farm demonstration were developed and distributed to workshop participants.

### *Generating media coverage*

Two 10-minute interviews about the methyl bromide phase out were aired to a national audience on the Ethiopian National Broadcast Corporation (covering 75% of the national audience). Articles on the dangers of methyl bromide were published in local journals such as ("Akirma") Journal of Forum for Environment; and information was also sent to websites like "Akabab" and "Moseb-inter-Africa/Horn of Africa".

### *Conducting the final survey*

The final survey was conducted in July and August 2001 in twenty representative areas in Ethiopia based on pesticide use and at the workshops. Evaluations of the MBCP and also of the publications prepared for the programme were carried out. As a result of the MBCP, the majority of respondents learned more about methyl bromide alternatives that are locally available and appropriate for Ethiopia, and were knowledgeable about the methyl bromide phase-out schedule and ozone depletion. Sixty two percent of respondents found the information materials prepared by ENDA to be appropriate and useful to their situation. All participants rated the overall organisation of the workshop between good and excellent, with 50% rating it as excellent. The majority of the respondents said that they heard the interview about methyl bromide with the Ethiopia News Broadcasting Operation. Respondents also identified the need for further activities to replace methyl bromide, including trials to test alternatives, improved linkage between researchers and methyl bromide users and funds for demonstration and implementation of alternatives.

### *Evaluation*

The survey results indicate that the MBCP was successful in raising awareness of methyl bromide users and in organising workshops and disseminating information to a wide range of stakeholders. ENDA was particularly effective in building the capacity of agricultural organisations and other stakeholders in promoting the phase out of methyl bromide. As a direct result of ENDA's efforts, a formal network comprised of the government, methyl bromide users and ENDA and other NGOs was created to further promote the phase out of methyl bromide and identify future activities. ENDA also successfully created an on-field demonstration with a major methyl bromide user that effectively illustrated how alternatives work. Clearly, the MBCP has played an important role in laying the groundwork for the successful phase out of methyl bromide in Ethiopia, and ultimately, particularly with the formation of the national network, for the ratification of the Copenhagen Amendment.



## Consumer Information Network (CIN) *Kenya*

CIN is an independent national consumers' organisation with over 2,000 individual members countrywide and 2 offices (one in Nairobi and one in Mombasa). CIN works closely with the Kenya Ozone Office and is part of the implementation committee of the demonstration project on alternatives to methyl bromide in Kenya.



## **4.6 KENYA**

### **NGO: Consumer Information Network (CIN)**

#### *Conducting the first survey*

CIN contacted major farmer associations in Kenya to obtain more information on methyl bromide use and users, including the Kenya Farmers Association, Kenya Flower Council, Horticultural Crops Development Authority (HCDA), Fresh Produce Exporters Association of Kenya, Kenya Ozone Office and the Ministry of Agriculture Extension Services. CIN targeted cut flower growers, the major users of methyl bromide in Kenya, when carrying out the initial survey in April 2001. They sent questionnaires to over 200 cut flower and horticultural crop growers and had to spend considerable time following up to get responses.

In the end, a total of thirty-nine questionnaires were completed by fax/e-mail and through 10 direct on-farm interviews. Eighty two percent of respondents said that they use methyl bromide for the production of cut flowers, with the majority of respondents having used methyl bromide since the 1970s. Eighty-four percent of respondents reported being aware of the methyl bromide phase out, but only 8 farmers knew the details of the phase-out schedule. Eighty-two percent of respondents reported knowing about methyl bromide alternatives such as steam, solarisation and pesticides, but only 57% had tried alternatives. While the majority of those trying alternatives said that they were not as effective as methyl bromide, six respondents said that they switched to steam because it worked as well as methyl bromide. Ninety percent of respondents said that more information materials, radio education, visits and talks, workshops and seminars were needed to help them learn about alternatives.

#### *Developing and disseminating information materials*

CIN created a database on methyl bromide alternatives based upon information obtained from the Kenya Ozone Office, the HCDA/UNIDO demonstration project being implemented in Kenya, a literature search at the UNEP library, and information sent by PANNA and UNEP. CIN created two brochures, "UNEP/CIN/GoK Communication Programme to Raise Awareness about Methyl Bromide" and "Methyl Bromide Facts & Figures", and printed 1500 copies of each. Two audiocassettes were also created, with 200 copies of each produced. These awareness-raising materials provided information on the problems associated with methyl bromide, alternatives and methyl bromide's scheduled phase out. They were disseminated during workshops and meetings and at the activities to mark Ozone Day 2001.

#### *Organising workshops and meetings*

CIN organised one workshop to raise farmers' awareness of methyl bromide use and the possible alternatives. There were twenty eight participants from farms, agricultural organisations, and the Kenyan government. Presentations were given by the Kenya Ozone Office (KOO), CIN, UNEP, and technical representatives involved in the HCDA/UNIDO demonstration project. Information materials and UNEP's video Healthy Harvest were also highlighted. The workshop also included a seminar to identify future activities needed to phase out methyl bromide in Kenya. CIN also conducted 38 on-farm visits to discuss the methyl bromide issue with farmers and distribute materials.

#### *Generating media coverage*

CIN held 4 radio programmes about methyl bromide, and did two ten-minute national radio interviews with the Kenya Broadcasting Corporation that focused on the MBCP and "Problems with Continued Use of Methyl Bromide".

#### *Conducting the final survey*

The second survey interviewed 31 farmers who had been involved in the MBCP, either

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by attending the workshop, receiving information or being visited by members. The majority of respondents recognised that methyl bromide is unsafe and were aware that methyl bromide depletes the ozone layer, and 18 knew the phase-out schedule for developing and developed countries. Seven respondents said they learned about the issues surrounding methyl bromide through MBCP, while 14 respondents learned about it from the Kenya Ozone Office. While the results of the first survey showed that there was a good awareness level about alternatives, 27 of the final respondents stated that they learned about alternatives through ongoing UNEP, KOO, CIN, UNIDO and other NGO activities/demonstration projects. The survey results also showed that the MBCP encouraged farmers to try alternatives. Four farmers who had not experimented with methyl bromide alternatives committed to trying one or two alternative treatment methods in the year 2002. A majority also believed that the MBCP should continue and that more farm visits, talks and information materials were needed. Nine respondents mentioned that additional demonstration projects and more active involvement in UNEP/FAO Farmer Field Schools should also be a priority.

### *Evaluation*

According to the survey results, CIN effectively reached methyl bromide users in Kenya, raised their level of awareness about the methyl bromide phase out and alternatives and even persuaded four farmers to try methyl bromide alternatives in 2002. Given the infrastructure and communication problems in Kenya, CIN placed great effort in surveying farmers and talking with them about the methyl bromide issue. CIN involved an array of organisations in the MBCP and met with a significant number of methyl bromide users through the surveys, farm meetings and workshop. The project also used the HDCA/UNIDO demonstration project as a way of providing information on alternatives at the workshop and through information materials. Radio was also effectively used to reach methyl bromide users. One area lacking was the fact that there were no on-farm demonstrations or other technical events to show in a 'hands-on' fashion how alternatives worked. According to survey results, more extensive efforts are needed to provide methyl bromide users with technical information they need to replace methyl bromide.

### EXAMPLES OF AWARENESS RAISING MATERIALS





## Coordination Unit for the Rehabilitation of the Environment (CURE) *Malawi*

Since 1994, CURE has worked to improve coordination and information exchange among NGOs and community-based organisations in environmental and natural resource management in Malawi.



## **4.7 MALAWI**

### **NGO: Coordination Unit for the Rehabilitation of the Environment (CURE)**

The completion of the MBCP in Malawi was severely delayed, such that final activities were completed in March 2003. Along with the long NGO selection process that affected the MBCP as a whole, CURE also experienced institutional difficulties. The greatest impact on the implementation of the MBCP was the resignation of the staff member at CURE handling the MBCP. Hence after a strong start to the MBCP from April to December 2001, there was a halt in activity for the first 8 months of 2002. During this hiatus UNEP contacted the NOU to work with CURE to find a solution to completing the project. CURE formally restarted activity with the attendance of a representative at the 2nd Consultative Meeting of NGOs in September, 2002, where UNEP worked bilaterally with the NGO to lay out timelines for completion of the project.

#### ***Conducting the first survey***

By the end of 2001, CURE had carried out their first baseline survey sampling some 34 estates and small farmers (30 estates, 4 small farmers). This was done through focus group discussions, on-site interviews with estate managers and owners, and by telephone and post. Twenty percent of respondents knew about the methyl bromide issue as a result of information sharing among farmers and from having earlier contact with the NOU or the Agricultural Research Extension Trust (ARET). The survey also showed that some awareness of the hazards of methyl bromide existed, but few were aware of the global phase out schedule. Respondents indicated that they were uncertain about the efficacy of alternatives and wanted to know more about the cost implications of replacing methyl bromide with alternatives. Most used methyl bromide as it was cheap and effective, although the small farmers all used traditional, indigenous soil treatment methods. Users indicated that they were prepared to switch to alternatives provided that they could be identified and they might receive technical and financial assistance in implementing them.

#### ***Developing and disseminating information materials***

CURE, drew on UNEP's awareness materials and gathered information from the NOU, UNDP office in Malawi, ARET and other relevant resources, to identify methyl bromide alternatives that were relevant to the situation in Malawi. The majority of methyl bromide in Malawi is used in the tobacco sector. Three alternatives, which were currently being trialed in Malawi, were focused on: chemical alternatives, crop rotation and soilless culture. CURE produced a variety of awareness-raising alternatives, namely: 800 information booklets in English and Chichewa); 200 year 2000 desk calendars and 500 wall calendars (for estate owners, institutions, pesticide suppliers, journalists, farmers, general public); 8000 information brochures in Tumbuka, Chichewa and English (for decision makers, general public, students, academia, government departments, journalists); 200 publicity T-shirts (distributed to journalists, farmers, workshop participants); 6000 posters (placed on public display and distributed to estates and farms, local institutions, schools, government departments, general public). These materials were sent to each estate that participated in the first survey as well as other users and estates, primary schools and secondary schools and natural resource management institutions. The posters were distributed at the workshops and displayed in public places, including in chain stores, markets, grocery stores, and roadside posts.

#### ***Organising workshops and meetings***

CURE arranged a Media Sensitisation Workshop at the start of the Malawi MBCP on December 5, 2001, to raise journalists' awareness about the policy, technical and economic issues related to the methyl bromide phase out so that they communicate information about the MBCP effectively to the public. This one-day workshop was attended by 25 journalists from various print and electronic media organisations and

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included a visit to the Mafisi Estate, which is one of the sites where alternatives are being tested. CURE also held various consultations with government and stakeholders, culminating with a large final workshop in February 2003 to mark the end of the MBCP and bring together all the stakeholders and decision makers to make a statement on the way forward for Malawi.

### *Generating media coverage*

As a result of the media workshop held by CURE, there have subsequently been several newspaper articles written in the Press, highlighting the dangers posed by methyl bromide and available alternatives. CURE also subcontracted the Malawi Broadcasting Corporation (MBC) radio 1 channel (which many farmers listen to), to air radio messages about the methyl bromide phase out and alternatives. This resulted in one-minute slots in Chichewa and Timbuka Languages being aired 45 times over a period of three weeks.

### *Conducting the Final Survey*

For the final survey, due to the remoteness of most estates and farms, and the need to close the project, CURE did not carry out the survey with a sufficient number of respondents, choosing instead to sample the 4 largest estates. The results of the second survey were mixed in assessing the impact of the MBCP, with respondents citing that the intermittent activity of CURE during the MBCP, had affected the momentum of the awareness-raising effect of the programme. (ie. infrequent visits of technicians and the long absence of activity in 2002 due to financial and staffing problems in CURE). Nevertheless at the end of the MBCP, some 75% of the respondents were aware of MB alternatives for tobacco production. In addition, due to information exchanges with the Zimbabwe MBCP, Malawi farmers also requested future cooperation with the Zimbabwe Tobacco Research Board.

### *Evaluation*

Despite CURE not meeting all of its objectives in the area of surveying, they definitely had for the first time launched a nationwide awareness campaign on methyl bromide, in a country which has remote communities, several local dialects, and frequent power and telephone outages. Certainly for at least the first 9 months of the MBCP (April to December, 2001), CURE was able to generate and disseminate awareness materials, run media campaigns and carry out numerous consultations. Before the MBCP, they had not been able to reach so many stakeholders and members of the public, and indeed at the end of the MBCP, methyl bromide users could say that they had been educated about alternatives and wished to collaborate further with the Zimbabwe Tobacco Research Board. Also, whilst CURE's organisational problems severely affected the continuity of the second half of the MBCP, trend analysis of national consumption of methyl bromide indicates that CURE's intensive campaigning in 2001 did indeed impact on the behaviour of methyl bromide consumers (see section 5.0 of this report).

## EXAMPLES OF AWARENESS RAISING MATERIALS





## **CARED, *Nigeria***

The Centre for Applied Research and Environment and Development (CARED) is a Nigerian body of renown, with much experience in the area of urban agriculture and associated education of stakeholders across Nigeria.



## **4.8 NIGERIA**

### **NGO: CARED**

#### *Conducting the first survey*

50 questionnaires were sent out across the geo-political zones of the country. 44 were completed. Apart from the expected cadre of stakeholders (consumers amongst agricultural persons and associated organisations) respondents also hailed from chemical manufacture and distribution bodies, the National Agency for Food, Drug Administration and Control, the External Trade Division of the Federal Office of Statistics, Plant Quarantine Services and the World Bank Assisted State Agricultural Development Projects (ADP's) in the six states on importation, consumption and distribution of MB and its alternatives. The baseline survey showed that only 2.3% of those surveyed were using MB, although these consumers were using significant amounts of MB (3,665 ODP t in 2001). These consumers nevertheless felt there was a need for more technical awareness materials, advice, equipment and training on alternatives to be made available, as well as more general awareness on the possibility of alternatives in the remaining areas of MB consumption.

#### *Developing and disseminating information materials*

The NGO was extremely active in the area of awareness raising and partnering with ongoing national projects. CARED created, produced and distributed awareness-raising materials, on methyl bromide's impact on the ozone layer, its phase-out requirements and methyl bromide use and alternatives as well as its environmental health impact. The created and distributed awareness-raising materials included: 5,000 stickers; 1,000 Desk calendars; 5,000 posters; biro pens; and blotters. In addition, CARED employed the use UNEP materials such as the videotape entitled " Healthy Harvest: Alternatives to Methyl Bromide ", as well as other posters. The awareness-raising materials created by CARED were distributed by mail and hand to stake-holders such as farmers, media, NGOs, government officials, ministries, politicians, agro-chemical dealers and fumigating companies.

#### *Organising workshops and meetings*

The NGO organised a national workshop on " Methyl Bromide Phase-Out in Nigeria" in March of 2003, to foster communication among all stakeholders, to disseminate information on alternatives and on the results of the baseline survey, as well as develop a blueprint for phasing out remaining MB in Nigeria. The workshop drew twenty-two participants from a broad spectrum of stakeholders, cutting across research institutes, Federal Ministry of Environment, agro-chemical dealers, agricultural development program staff and farmers, and NGOs were in attendance. The workshop also sought to generally enhance the capacity of agricultural and non-governmental organizations in promoting Methyl Bromide alternatives, and took the opportunity to launch and distribute awareness raising materials on phasing out Methyl Bromide.

#### *Generating media coverage*

CARED did not report getting successful media interest in their activities. As such the NGO used its own means at meeting stakeholders across the country face to face, distributing awareness materials, and ensuring that their workshop attendance included representatives from all stakeholder groups.

#### *Conducting the final survey*

There was a difficulty gathering the required number of survey responses. 23 respondents from the workshop were asked to complete the surveys, but only 10 did so adequately. Nevertheless there were clear signs that whereas previously less than half of persons were even aware of the threat to health of MB, after the MBCP all respondents

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were now aware. In addition, prior to the workshop and MBCP, many respondents were unaware of the global phase of MB and the Montreal Protocol, but after the MBCP all were aware.

### *Evaluation*

As aforementioned, the MBCP was a useful tool in raising awareness on the hazards of MB and the Montreal Protocol global phase out. Respondents also claimed to have acquired knowledge on alternatives through the MBCP workshop and its other activities. In carrying out the MBCP, CARED made important ties with the private sector, and got the opportunity to build on World Bank Assisted State Agricultural Development Projects (ADP's) in the six states on importation, consumption and distribution of MB and its alternatives. In general the NGO managed to improve its own connections amongst stakeholders and also improved communications between the various stakeholders. Through their workshops and interlinkages with other past phase out projects, the NGO formed lasting linkages with stakeholders and the NOU. The NGO's ability to alert stakeholders to the existence of the MB phase out schedule certainly will assist the NOU in getting good partnership in the steps to phase out. The most outstanding crucial need to make the MBCP activity sustainable is the setting up of demonstration projects in areas where the Me Br use is very prevalent not only to identify the most suitable chemical alternatives but also determine the cost-effectiveness of such alternatives. The second need suggested by the respondents is access to more information on these chemical alternatives through awareness program in a sustainable fashion. Furthermore, periodic training workshops where stakeholders are brought together to exchange ideas on methyl bromide are also suggested.

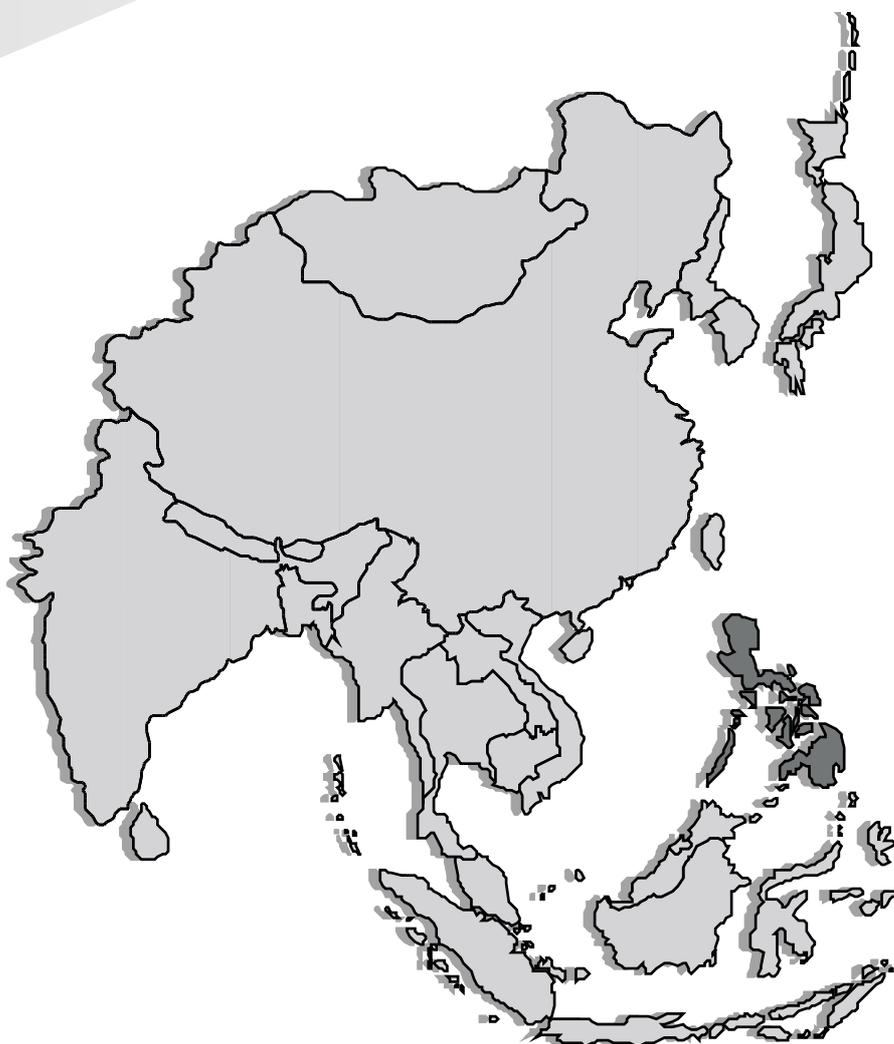
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## Pesticide Action Network Philippines (PAN-PHIL) *Philippines*

PAN International was set up in 1982 in Malaysia during an international meeting on Pesticides World Trade sponsored jointly by the International Organisation of Consumers Unions (IOCU) and Sahabat Alam Malaysia (Friends of the Earth - Malaysia). Participants at this historic meeting, including organisations from all across the globe, decided to set up PAN which is a global information and action. PAN is also a framework for implementing concrete activities in order to cope with network problems posed by pesticides. Today PAN involves more than 400 groups and organisations and is present in over 60 countries throughout the 5 continents.

PAN-PHIL has been working for many years on alternatives to pesticides and public/farmer outreach, including monitoring the use of pesticides in banana plantations and providing technical assistance to local and regional organisations.



## **4.9 PHILIPPINES**

### **NGO: Pesticide Action Network Philippines (PAN-PHIL)**

#### *Conducting the first survey*

PAN Philippines initially surveyed a total of 60 respondents, carrying out detailed surveys in person and in writing. Respondents were from pest control operators (PCOs) (being the majority), milling companies, tobacco corporations, multinational corporations, golf courses, and government agencies. Those surveyed represented approximately 25% of the total volume of importations of methyl bromide into the Philippines (for the year 2000). The initial survey showed that 53% of respondents used methyl bromide, with 82.6% of the respondents using methyl bromide for quarantine/pre-shipment purposes. Other uses include structural fumigation (35% of respondents) and soil use (17% of respondents). While 56.5% knew that methyl bromide depletes the ozone layer and 78% knew that methyl bromide will be phased out under the Montreal Protocol, only 30.4% of respondents knew about alternatives to methyl bromide. Many respondents also indicated the need for information, training, demonstrations and workshops to learn more about alternatives.

#### *Developing and disseminating information materials*

For information and education purposes, PAN-PHIL developed and disseminated 60 copies of a very detailed and colourful 37-page brochure (based on a brochure developed by UNEP) on the methyl bromide phase out. A newsletter on alternatives was also created, with 225 copies produced and disseminated. All of these information materials also provided information on the results of demonstration projects.

#### *Organising workshops and meetings*

PAN-PHIL organised 6 workshops on methyl bromide alternatives with a total of 229 participants. Workshops were organised with the Philippine Association of Professional Fumigators, Pest Exterminators of the Philippines, PILMICO (a milling plant that is a major importer/end user of methyl bromide), and the Philippine Association of Certified Pesticide Applicators. Participants at the workshops included PCOs, PCO managers, mill managers, company representatives, and certified pest applicators. These workshops focused on providing basic information on the methyl bromide phase out and alternatives, particularly alternatives for structural and grains fumigation, and the UNDP demonstration project on methyl bromide alternatives in Davao. Representatives from PAN-PHIL gave presentations at these workshops, showed UNEP's Healthy Harvest video and distributed brochures, newsletters and other information materials were distributed at these workshops.

#### *Generating media coverage*

The MBCP also generated substantial news coverage. A nationwide broadcast interview about the MBCP was held on the radio program called Life with Aunt Angie on Radio Veritas and print media coverage appeared in six publications, including two national daily newspapers (The Philippine Star and The Manila Bulletin) and Agribusiness Digest.

#### *Conducting the final survey*

While PAN-PHIL received a total of 70 final survey forms, 48 of these forms were used since the other forms were not filled out properly. The majority of respondents were PCOs. Sixty seven percent of those survey received or learned information about methyl bromide from PAN-PHIL, while 33% did not. Fifty six percent of the respondents learned more about methyl bromide from PAN-PHIL while 6% of respondents saw information about methyl bromide from local newspaper or TV/radio. Forty six percent of respondents said that the new information will influence the way in which they use

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methyl bromide, while 29% learned more about alternatives to methyl bromide that are suitable for their farm or company. The overall rating of effectiveness for PAN-PHIL was 4 (on a scale of 1 to 5, five being the best). The overall rating for workshop/meetings was 4, and the overall effectiveness for the effectiveness of the information was 4. One of the main concerns of PCOs and other respondents was the fact that the export requirements of other countries (particularly New Zealand, Australia and Canada) prevent them from using alternatives.

### *Evaluation*

The Philippines NOU has evaluated the program and concluded that the MBCP successfully raised awareness about methyl bromide alternatives through the workshops conducted and built the capacity of agricultural organizations in promoting methyl bromide alternatives by targeting the PCOs. According to the NOU, the MBCP also helped Philippines in meeting the phase-out requirements due to the fact that the Senate ratified the Copenhagen Amendment in June 2001. The NOU also emphasises the need for the MBCP to be continued and expanded as the Philippines moves forward with its methyl bromide phase-out plan. PAN-Phil believes that there is now a high level of awareness about methyl bromide phase out and alternatives and that "this is a favourable condition for preparing the Philippines for the eventual phase out of methyl bromide." As indicated by the survey results, PAN-Phil creatively utilised existing agricultural and pesticide networks (PCOs and certified pest applicators) to reach and educate the largest methyl bromide users. They also developed information brochures and workshops successfully to raise these users' awareness about the methyl bromide issue and alternatives, including those alternatives used in demonstration projects. For example, PILMICO is now looking into methyl bromide alternatives and has been in contact with milling companies in the US to obtain technical advice on possible alternatives for fumigating milling plants. Through the workshops organised and the significant agricultural organisations that PAN-PHIL partnered with, the project significantly built up the capacity of PAN-PHIL and agricultural organisations in promoting methyl bromide alternatives. While an impressive amount of national press coverage was generated, PAN-PHIL believes that TV may be a more effective medium to reach farmers, although it is far more difficult to get spots due to limited availability of slots. Respondents indicated a need for more hands-on demonstrations and training programmes for specific methyl bromide alternatives to help users adopt alternatives and for a more intensive information campaign focused on radio and TV, and training and demonstrations on specific alternatives.



## **Pesticide Action Network - Africa (Senegal) (PAN-Senegal), *Senegal***

PAN Africa is an information and action network and a member of Pesticide Action Network International, a global coalition of voluntary groups, non-governmental organisations, civil societies, research institutes, scholars, and citizens working towards the adoption of sound ecological practices to replace the use of hazardous chemical pesticides. The African Regional Centre, the latest of the PAN Regional Centres, has been based in Dakar, Senegal, since May 1996. It coordinates members' activities throughout the continent. Three times per year the African Regional Centre publishes a journal "Pesticides & Alternatives", on issues related to pesticides and alternatives to chemical pest control. Today PAN Africa involves organisations and individuals in Benin, Botswana, Burkina Faso, Cameroon, Congo, Ethiopia, Ghana, Kenya, Mali, Niger, Nigeria, Senegal, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe.



## **4.10 SENEGAL**

### **NGO: PAN-Senegal**

#### *Conducting the first survey*

The NGO found that at the time of the survey there were no non-QPS uses of methyl bromide remaining, and so surveyed the organisations remaining with a potential for methyl bromide use. They had 11 responses from national mills, agricultural organisations, food distributors, chemical importers, seed producers, cotton producers, and phytosanitary bodies. They included the only historical importer of methyl bromide into the country, who confirmed that they have now reduced their imports to only phytosanitary activities. All participants were well aware of alternatives to methyl bromide, and were accustomed to working with them. All were not however familiar with the phase out schedule for methyl bromide.

#### *Developing and disseminating information materials*

The NGO was extremely active in the area of awareness raising and partnering with ongoing national projects. Awareness materials generated included: a detailed information booklet: "Bromure de Méthyle et Destruction de la couche d'ozone"; two publications: "Elements pour la lutte intégrée contre les ennemis des cultures en Afrique soudano-sahélienne" and "Le génie génétique en agriculture Mythes, Risques pour l'Environnement et Alternatives"; and two Posters: "Sans la couche l'Ozone, aucune vie sur terre n'est possible" and "La destruction de la couche d'Ozone a des conséquences dramatiques sur l'humanité". The booklet in particular was detailed, providing 32 pages with illustrations about the Montreal Protocol, Ozone Layer destruction by methyl bromide, alternatives for methyl bromide and modes of use, and UN contacts for further information. They also included methyl bromide issues in their PAN Africa newsletters, "PAN AFRICA: Rapport annuel 2001" as well as "Pesticides & Alternatives: Bulletin de Pesticide Action Network (PAN) Africa".

#### *Organising workshops and meetings*

Of special note was the 4-day visit to NOVASEN, the last company to use methyl bromide, which ceased to do so in 1999, through a project with UNIDO. PAN Senegal therefore visited the company to evaluate the alternatives implemented between 1999 and 2001, effectively promoting the experience of NOVASEN, and the benefits of the project. PAN Africa then used this to initiate further training in effective alternatives. The NGO opened their execution of the MBCP in July 2002, with a workshop for the Validation of methyl bromide alternatives, during which the NGO heard of the efficacy of the alternatives being used in the country and the views of the users. Journalists and members of 15 separate organisations were in attendance. They also educated the users of the structures of the Montreal Protocol, and of the need to continue to endeavour to stay with alternatives. A second sensitisation workshop was held in December 2002, which explored alternatives once more, but also broached biological alternatives.

#### *Generating media coverage*

As aforementioned, the print media was the focus for media coverage, ensuring that journalists participated in their workshops and field visits. In addition the NGO took the time to include methyl bromide issues into their PAN-Africa newsletters for continent-wide distribution amongst the Francophone countries.

#### *Conducting the final survey*

19 persons from 18 organisations were interviewed. The NGO cited a difficulty in getting responses in general from appropriately placed persons in organisations, which for administrative or competitive reasons, did not want to cite their (historical) practices

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of use of methyl bromide or alternatives. Of the 19 persons interviewed, 17 were aware that the use of methyl bromide as a whole had a negative environmental impact. All were now familiar with the international phaseout schedule, and also cited a knowledge of not only chemical alternatives for methyl bromide, but also physical, and biological methods, along with the use of resistant varieties of plants.

### *Evaluation*

In carrying out the MBCP, PAN Senegal made important ties with the private sector, particularly those very large companies like NOVASEN with a historical link to methyl bromide use. PAN also grew closer working ties with the Senegal NOU and UNIDO in working to highlight the outputs of previously approved phase out projects. Particularly through their workshops and interlinkages with past phase out projects, the NGO formed lasting linkages with stakeholders and the NOU. In addition, they were able to absorb the MBCP into the general agenda of PAN Africa, which itself is a part of the global PAN. One major achievement was the education of stakeholders of the full range of alternatives available.

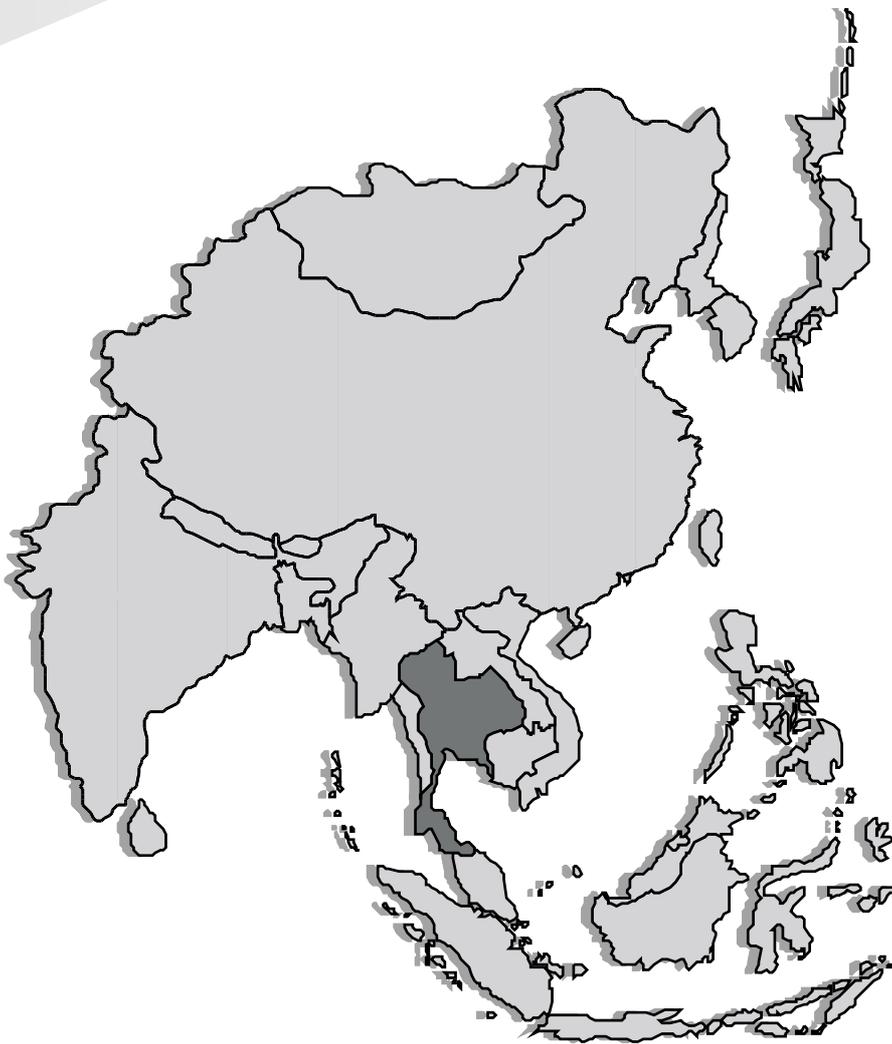
### EXAMPLES OF AWARENESS RAISING MATERIALS





## Rice Exporters Association (REA) *Thailand*

The Rice Exporters Association is an old organisation founded in 1919. This organisation acts a supplier of rice to local markets, seeks out new markets and business partners, are responsible for the inventory of local rice stocks and related statistics, making a weekly report of rice trades and the movement of rice in Thailand.



## **4.11 THAILAND**

### **NGO: Rice Exporters Association (REA)**

The MBCP in Thailand was much delayed due to the fact that it took a long time for the NOU to approve the NGO to carry out the project. As a result, much of the MBCP took place in 2002.

#### *Conducting the first survey*

Two hundred and seventy eight sets of survey questionnaires were distributed to major stakeholders in 10 different provinces in Thailand and a total of 140 sets of data were collected (50% of surveys distributed). The sample includes government and private enterprises, both current and former users, which were randomly selected. Respondents included fumigation companies and members of REA, Thai Rice Mill Association, Thai Orchid Association and the Thai Tapioca Flour Industries Trade Association. Seventy three percent of respondents use methyl bromide for fumigation, with 36 % using it for rice and 40% for other agricultural products. However, the survey showed that 41% of respondents use methyl bromide for pre-shipment and quarantine purposes while none is used for soil fumigation. Seventy one percent of respondents were aware of the fact that methyl bromide was "hazardous", but only 4% had a "good understanding" of the methyl bromide phase out under the Montreal Protocol. Over 60% of respondents knew about alternatives to methyl bromide and learned about alternatives from a variety of sources, primarily from government agency and from fumigant distributors. The majority of respondents (78%) showed their interest in testing methyl bromide alternatives.

#### *Developing and disseminating information materials*

Drawing on UNEP's awareness-raising materials, REA developed numerous publications that were used to educate methyl bromide users in Thailand about the phase out and appropriate alternatives. REA produced Thai versions of UNEP's video *Methyl Bromide: Getting Ready for the Phase Out* as well as videos from UNIDO on methyl bromide alternatives for Integrated Commodity Management – 100 copies of each of these videos were produced. REA also produced Thai versions of several written materials on alternatives and developed many hand-outs in Thai focusing on key issues including *Frequently Asked Questions about Methyl Bromide*, *Methyl Bromide Alternatives for Grain Storage and Structures*, *Toxicity of Methyl Bromide and Phosphine* and *Best Practices for Phosphine*. 150 copies of each of these hand-outs were produced.

#### *Organising workshops and meetings*

On August 19, 2002, REA organized a seminar to increase awareness of methyl bromide and alternatives in Bangkok, which was attended by 74 participants. The major users of methyl bromide in Thailand participated in the workshop, including rice exporters, rice mill businesses, fumigation companies and surveyors, feed mill manufacturers and perishable and cut flower exporters. The three featured speakers were an entomologist and agricultural scientist from the Thai Ministry of Agriculture and Cooperatives and a product representative from Cytex Inc. in Australia. The seminar provided an important opportunity for discussion and identifying effective alternatives for the major uses of methyl bromide in Thailand. Various alternatives were identified as being suitable for replacing methyl bromide, including Integrated Commodity Management, phosphine fumigation, hygiene management and chemical fogging. The seminar also identified uses for which there are no alternatives currently available – for example, the use of methyl bromide for post-harvest cut flowers, where more work is needed to implement alternatives.

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### *Generating media coverage*

REA generated media coverage by highlighting the outcome of the awareness-raising activities, especially the workshop. These media activities resulted in coverage on TV (a story on 10 pm news on Television Channel 9), on Midday News in Radio Thailand, articles in The Bangkok Business Post, The Matichon Newspaper, and in the Feed Mill Business bi-monthly magazine.

### *Conducting the final survey*

For the final survey, questionnaires were distributed to methyl bromide users in 10 selected provinces in Thailand and resulted in 73 returned questionnaires from private enterprises. Sixty two percent of respondents rated the overall communication programme carried out by REA as "good" while 22% gave it a rating of "excellent". Eighty four percent of respondents received materials and other assistance from REA. Sixty two percent of respondents found that the seminar provided the most effective way of learning about the methyl bromide phase-out and alternatives, while other helpful ways were receiving materials by mail (23%), articles in the newspaper (4%) radio broadcasts (4%) and TV broadcasts (3%). The majority of respondents (73%) expressed their interest in trialing methyl bromide alternatives and some of the alternatives most frequently identified by respondents were Integrated Commodity Management (62%), ECO2Fume® (45%), CO<sub>2</sub> treatments (15%), cold treatment (11%) and heat treatment (3%). Respondents identified additional assistance that they need to implement methyl bromide alternatives, which include more details on methyl bromide alternatives (78%), expertise on methyl bromide alternatives (51%), more details of the government policy and timelines for the national methyl bromide phase-out programme (49%) and supportive programmes from the government (43%). When asked what their preferred timeline was for implementing methyl bromide alternatives, 18% stated they would implement alternatives in 2002, while 59% indicated they would implement alternatives in 2003.

### *Evaluation*

The REA's MBCP was effective in raising awareness among the major methyl bromide users in Thailand, about the methyl bromide phase out, and appropriate alternatives. Overall, the survey results indicate a greater understanding about the methyl bromide phase-out programme, as well as the interest of methyl bromide users in further developing and adopting alternatives. They developed a significant amount of public awareness materials in Thai and effectively conducted outreach to the major user groups. However, it is clear that more work needs to be done in promoting the adoption of alternatives and identifying alternatives for those uses for which there are currently no alternatives. Results of the final survey indicate that there is a need for more technical assistance to help growers in experimenting with and adopting alternatives and regulatory issues relating to the import of methyl bromide.

#### EXAMPLES OF AWARENESS RAISING MATERIALS





## **Environmental Conservation Association of Zambia (ECAZ) *Zambia***

ECAZ is an affiliate of the Zambia National Farmers' Union with the specific responsibility of handling and managing environmental farmer related issues.



## **4.12 ZAMBIA**

### **NGO: Environmental Conservation Association of Zambia (ECAZ)**

#### *Conducting the first survey*

ECAZ sent out a total of 80 surveys and received 38 responses, including 23 from tobacco growers, 11 from floricultural farmers and 4 from methyl bromide suppliers or distributors. ECAZ considers this to be a very good response rate, given the problems with infrastructure and communications in Zambia. Forty-eight percent of the respondents were aware of the international restrictions on methyl bromide, and 63% knew about or had tried methyl bromide alternatives. According to the survey, six rose farmers had completely phased out methyl bromide since 1998 and are using Basamid, while other growers have found float beds, pine bark beds, solarisation and other chemicals to be effective alternatives. Results indicate that approximately 70% of national methyl bromide in Zambia is in the tobacco sector, with 27% used in greenhouses. When asked what further activities were needed, respondents identified more information about alternatives, and also stressed that the major constraint of adopting alternatives was the large capital costs associated with the floating seedbed system

#### *Developing and disseminating information materials*

ECAZ developed an e-mail network news flash and fact sheets that were distributed through a variety of channels, including visits to individual users and suppliers, through farmers' newsletters, ordinary post and faxes, and during meetings with stakeholders. A video was also developed showing how alternatives work, based upon the field visits organised during workshops. Information was also disseminated through the Zambia National Farmers' Union (ZNFU) annual congress, farmer's commodity meetings, agricultural and commercial shows, radio live call in (Voice of the Farmer), and the Ozone Officer's Network Meeting for English Speaking African Countries. The main targets groups in the programme were methyl bromide users such as commercial, small/medium scale farmers (mostly members of Tobacco Association of Zambia), Zambia Export Growers Association, suppliers of methyl bromide and other agricultural/ environmental organisations.

#### *Organising workshops and meetings*

The Communication Programme was implemented in three regions of Zambia – Central, Lusaka, and the Southern provinces where there is significant use of methyl bromide. Throughout May 2001, ECAZ held meetings with Lusaka/Chisamba, Choma/Kalombo and Zimba/Livingstone farmers' associations, with a total of 60 farmers participating. The meetings not only presented the opportunity to discuss the methyl bromide issue but also to have field visits and talk with farmers who have been growing tobacco using both methyl bromide and float bed methods. Contacts were also made with concerned stakeholders, including the National Ozone Unit, the Tobacco Association of Zambia, the Zambia National Farmer's Union, the Zambia Export Growers Association, the Organic Producers and Processors of Zambia, and the Agro-Chemicals Association of Zambia. A national workshop on methyl bromide was also held from 30-31st August 2001. The workshop provided an overview of the methyl bromide issue and involved field visits to farms using methyl bromide alternatives for tobacco, vegetables, flowers and forestry tree seedlings and roses. Participants also learned about the experiences of Brazilian farmers in UNIDO demonstration projects with float trays, and how this could be used in Zambia. A video and workshop proceedings were developed. Presentations were also made at farmers' annual congress, agricultural and commercial shows and other relevant forums.

#### *Generating media coverage*

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ECAZ's media strategy was to target those shows or publications that are geared to farmers, resulting in coverage being generated on radio live call-ins (Voice of the Farmer). There was also coverage about methyl bromide and the MBCP in various farmers' newsletters.

### *Conducting the final survey*

ECAZ took an unorthodox approach to the second survey, by focussing on changes in behaviours to monitor the success of the MBCP. Therefore they looked at MB consumption after the MBCP for impacts across the country, particularly in the areas of Central, Lusaka and Southern provinces where the use of Methyl Bromide was used heavily. According to the final survey results, ECAZ has estimated that the methyl bromide use in Zambia has decreased significantly since the MBCP was implemented – from about 35.2 tonnes before the MBCP to about 26.5 tonnes from the results of the final communication survey programme activities. Some of the most significant reductions occurred in the tobacco sector.

### *Evaluation*

ECAZ was particularly successful in utilising existing agricultural networks to reach out and educate farmers about methyl bromide alternatives. For example, tobacco growers decided to develop a methyl bromide phase-out pilot project called "Bite the Bullet", where farmers carried out trials using various alternatives. Demonstration projects were also used effectively to provide technical information to farmers on possible methyl bromide alternatives that can replace methyl bromide. For example, after learning about the Brazilian demonstration project in tobacco at the workshop, farmers are keen on learning more about how to use this technology in Zambia and in working with ECAZ and UNIDO in getting the resources and technical expertise needed. As a result, some farmer groups have developed farmer to farmer campaigns and are using the materials developed as part of the MBCP for these educational efforts. ECAZ efforts have also helped to accelerate the ratification of the Copenhagen Amendment, so that Zambia is eligible to receive financial assistance for replacing methyl bromide.

## EXAMPLES OF AWARENESS RAISING MATERIALS





## Tobacco Research Board (TRB) *Zimbabwe*

Established in 1938, the TRB conducts research and extension services for both small- and large-scale farmers throughout Zimbabwe. Over the last four years, the TRB has conducted extensive research and extension programmes aimed at phasing out the use of methyl bromide in tobacco production.



### **4.13 ZIMBABWE**

#### **NGO: Tobacco Research Board (TRB)**

##### *Conducting the first survey*

The TRB already has extensive experience working on methyl bromide alternatives since it is the lead organisation working with UNIDO to implement the methyl bromide alternatives demonstration project. Drawing upon this experience, TRB contacted over 300 tobacco growers about the survey and received responses from 55 Zimbabwean farmers, predominantly tobacco growers (tobacco is the largest user of methyl bromide in Zimbabwe), as well as farmers using methyl bromide on other crops. This is considered to be a good response, given the political and economic problems currently facing Zimbabwe. Ninety six percent of respondents use methyl bromide on tobacco seedbeds, 5.5% on flowers or on maize and other grains, 9% on paprika and the remaining on other fruits and vegetables. The average use among respondents was 440 kg per grower from 1998 to 2000 and there has not been any significant reduction or increase over this time period. Sixty nine percent knew about methyl bromide's effect on the ozone layer and almost all growers knew about the scheduled phase out of methyl bromide under the Montreal Protocol. While the vast majority of respondents knew about alternatives to methyl bromide, 87% have not yet tried these alternatives themselves. Respondents identified TRB research, more information, field days/discussion groups and demonstrations as some of the assistance needed to replace methyl bromide.

##### *Developing and disseminating information*

TRB used materials from UNEP as well as other publications produced by TRB on methyl bromide, and widely disseminated them to major stakeholders and methyl bromide users (primarily tobacco growers since this is the major use in Zimbabwe). An additional 100 copies of TRB's booklet "Alternatives to the use of Methyl Bromide in tobacco production in Zimbabwe", which described the results of the TRB/UNIDO demonstration project on alternatives to tobacco, were printed and distributed to demonstration growers and other interested growers. A Dear Grower letter was sent to all registered tobacco growers and other interested parties (over 1500 people) and a similar Dear Grower letter targeted for flower growers was sent to 270 growers who are members of the Flower Growers Association of Zimbabwe (EFGAZ).

##### *Organising workshops and meetings*

The TRB used their existing field days and other events to widely reach out to and educate farmers about the methyl bromide phase out and alternatives. Ten circus meetings for small growers were held in various locations in Zimbabwe. Presentations about the methyl bromide phase out and TRB's work on alternatives were given at circus meetings that were held at all 15 tobacco districts in Zimbabwe and were attended by about 560 growers. In addition, two methyl bromide alternatives field days with 100 farmers in attendance were held at Kutsaga Research Station where chemical alternatives to methyl bromide were demonstrated. Four float seedbed field days (attended by over 200 farmers) were also held to give farmers the opportunity to learn more about the alternative seedbed technology.

As a result of these field days and meetings, 59 growers volunteered to participate in off-station demonstrations to establish floatbeds. Forty-nine of these participants successfully established the floatbeds, and most subsequently organised field days. The TRB also worked with the 5 Farmers' Development Trust Training Centres to set up demonstration beds across the country, which were specifically for small-scale grower training. Sixteen farm discussion groups were all held where various aspects of the methyl bromide phase out and alternatives were discussed. All of these activities

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generated a very high level of interest within the tobacco industry and throughout the agricultural community as a whole.

### *Generating media coverage*

The TRB was able to get coverage of the methyl bromide issue in publications specifically targeted to farmers as well as media channels geared to the general public. A variety of articles written by the TRB about the MBCP and methyl bromide appeared in the following publications: Farmer Magazine (Weekly, circulation 5000); EFGAZette (Monthly, +165 grower members); Zimbabwe Tobacco Magazine (Monthly 5000); "Keeping in Touch" Newsletter (Periodic, 5000); The Financial Gazette (Weekly, 35,000 hard copies, 390,000 hits online); Zimbabwe Tobacco Magazine (Monthly, 5000); farmer Magazine (Final Copy, 5000). But the TRB capitalized in particular on their own 'Dear Grower' Tobacco Letter with 1626 recipients, from several sectors and organisations, such as commercial tobacco growers, government extension workers, consultants, chemical companies, libraries, media houses, irrigation companies, banks, trade organisations, farmers' associations, and agricultural education institutions. They also made use of a "Dear Grower" Export Flower Letter to raise MB issues (270 recipients). In addition they produced a booklet 'Alternatives to the use of MB in tobacco production in Zimbabwe', which described the results of the TRB/UNIDO demonstration project on alternatives to tobacco. There was also additional outreach, involving an additional survey on MB issues with 270 flower growers by the Export Flower Growers Association of Zimbabwe (EFGAZ). There were three awareness-raising radio broadcasts across one month between March and April 2001. The coordinator of the MBCP was twice interviewed about the methyl bromide issue on a pre-recorded radio programme focused on agriculture called "Agritex Farm Dairy". Another interview was also conducted on a general magazine programme called "Morning Mirror" which provided an opportunity to educate the general public about the methyl bromide issue. The producer of this latter show plans on interviewing farmers involved in the demonstration float seedlings at a later stage.

### *Conducting the final survey*

A significant effort was made to reach all possible sectors of agriculture that may have been exposed to MBCP. Surveys were distributed via e-mail and at TRB-sponsored Field days, tobacco float seedbed field days, Grain Marketing Board depots, and through many other channels. One important consideration was the great difficulty TRB experienced in obtaining responses due to the serious disruptions facing the farming community in 2001, with the government's redistribution of farm holdings. A total of 37 responses were received from tobacco growers (73%), flower growers (32%), and agronomists, consultants and others (24%). Results indicated that 73% of respondents had obtained information about methyl bromide from the TRB over the last few months, with 60% having attended a meeting or workshop hosted by TRB. Overall, the workshops/meetings were given an average rating of 4.2 (on a scale of 1 to 5, 5 is excellent).

About half of respondents said that they had learned more about methyl bromide in the last few months due to TRB's activities. About half of respondents said that they learned about alternatives that would be appropriate for their operations, and half again said they would try using an alternative on their farm or company in the future. Respondents also identified further assistance or help needed to replacing methyl bromide, which included more research on specific alternatives, more extension services, more information about the floatbed technology, more facts and booklets, more field days and financial assistance to make the change.

### *Evaluation*

The MBCP in Zimbabwe was very effective in educating hundreds of farmers in Zimbabwe about the methyl bromide phase out and available alternatives. The TRB's strong links with farmers, its involvement in UNIDO's methyl bromide alternatives demonstration project meant that they were not only able to educate farmers, but also help farmers try and adopt alternatives. Using the alternatives identified in the UNIDO demonstration project, the TRB was particularly successful in organising workshops, field days and practical demonstrations to illustrate how the various alternatives to methyl bromide work. Growers indicated that they found these types of activities more useful. These efforts resulted in 59 farmers voluntarily conducting demonstrations on their own farms, with the assistance of the TRB. The MBCP has helped to build up the capacity of the TRB and the agricultural community in Zimbabwe to promote methyl bromide alternatives. The TRB is continuing with its demonstration programme and in promoting the adoption of alternative technologies until all methyl bromide users are satisfied with an alternative system.

## **4.14 EVALUATION OF THE ROLE OF PANNA,**

### **Coordinating NGO**

PANNA played an invaluable role in helping all NGOs develop and implement the MBCP, and in fostering an exchange of experiences and information among the NGOs. PANNA did very detailed research and consultations to identify appropriate and well-qualified NGOs to participate in the MBCP. The guidelines prepared by PANNA were very helpful to NGOs in developing the MBCP. Staff at PANNA also very thoroughly monitored the progress of each NGO and gave important feedback and ideas for the MBCP for all of the countries. However, in the summer of 2001 the contract of the staff member focusing on the MBCP ended, effectively ending PANNA involvement in the MBCP. This withdrawal from activity was largely the result of the fact that the long NGO selection process at the start of the project, had pushed project completion timelines down considerably, and PANNA was financially unable to afford personnel to continue servicing the MBCP. This was unfortunate because the staff member at PANNA had built up a very good relationship with the NGOs and played an important role in guiding the current and future activities of the MBCP.

This development points to a flaw in the original project design. Despite PANNA's longstanding involvement and expertise on this issue, it did not at the time of the MBCP have its own separately funded methyl bromide programme, and so was solely dependent on MBCP funds if it was to play the supportive role for the developing country NGOs. Therefore when funding ran out, it was unable to continue to play its pivotal role in the MBCP. The withdrawal of PANNA affected efforts to build long-term NGO capacity in promoting methyl bromide alternatives, forcing UNEP to find other ways to network the developing country NGOs with global NGOs as a whole, and other experts on methyl bromide issues. As aforementioned, this topic was raised at the 2nd Consultative Meeting of the NGOs in September 2002, and the initial framework for an NGOs Network, as envisioned by the NGOs, is discussed in Section 7.0 of this report.

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## 5.0 - OVERALL EFFECTIVENESS OF THE PROJECT

The above section demonstrated that NGOs were by and large very successful in all aspects of the MBCP, including developing and dissemination information, organising workshops and meetings and generating media coverage. While the approaches taken and outcomes achieved varied from country to country depending on specific circumstances, for the most part, the NGOs implemented all required activities, delivered outputs and met the main objective. Indeed even those NGOs without previous experience in methyl bromide awareness raising were able to perform at a standard that was comparable to that of the more experienced NGOs like CODEFF (Chile), IRET(Costa Rica) and the TRB (Zimbabwe). So it is safe to say that the original project objectives were met, as the MBCPs successfully raised awareness of methyl bromide users, disseminated results of demonstration projects and enhanced the capacity of NGOs and other agricultural organisations to promote methyl bromide alternative.

However, as an additional assessment tool, methyl bromide consumption trend analyses were carried out for each of the participating countries. The results of these analyses are laid out on the following pages. All data used is official data as reported by the countries to the Ozone Secretariat under Article 7 of the Montreal Protocol. Note that developing countries had to freeze their methyl bromide consumption in 2002 to the average 1995 through 1998 consumption levels. This baseline, or 'freeze level', is indicated in each plot.

**Figure 1 : MB Consumption of Cameroon**

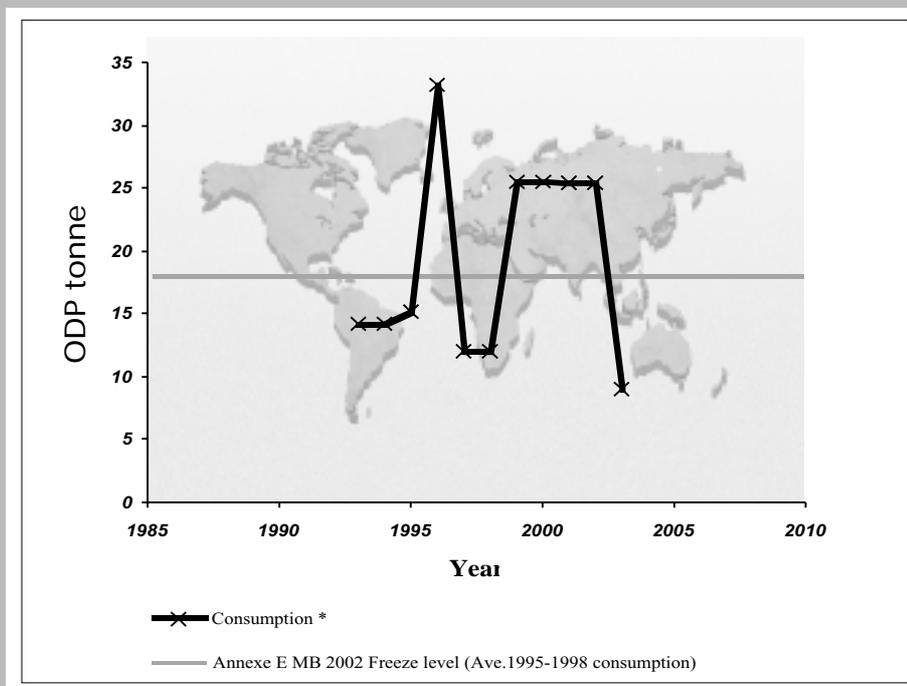


Figure 2 : MB Consumption of Chile

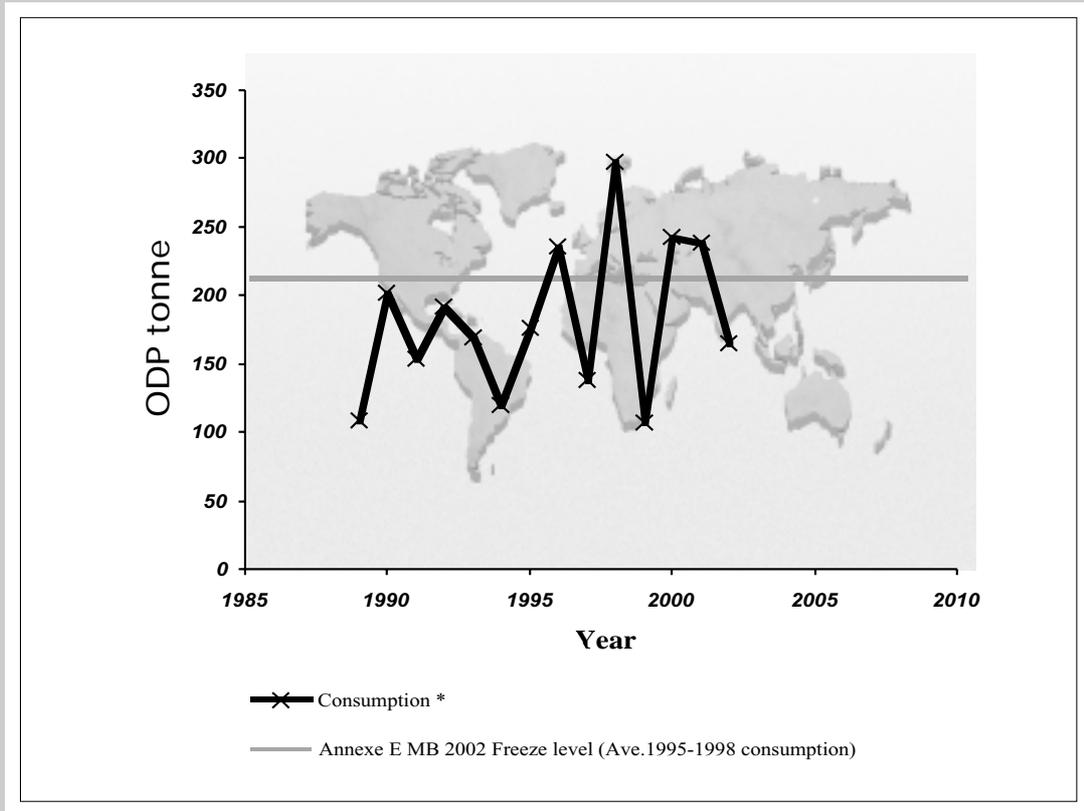


Figure 3 : MB Consumption of Costa Rica

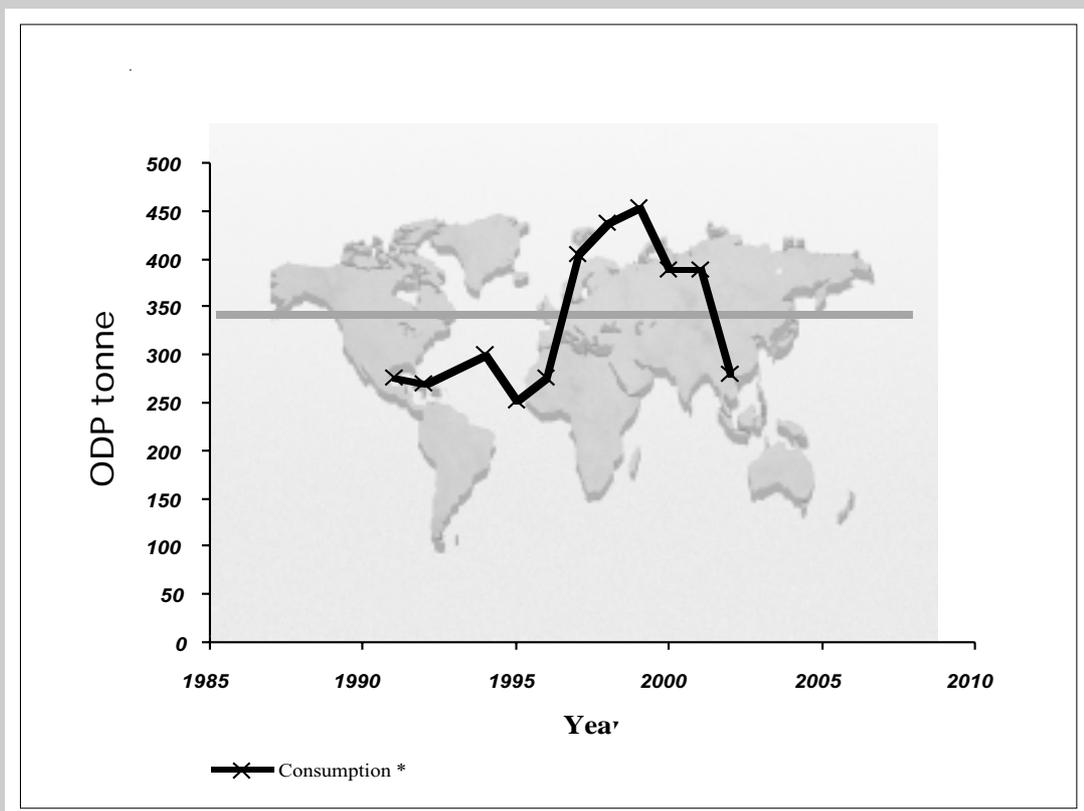


Figure 4 : MB Consumption of Dominican Republic

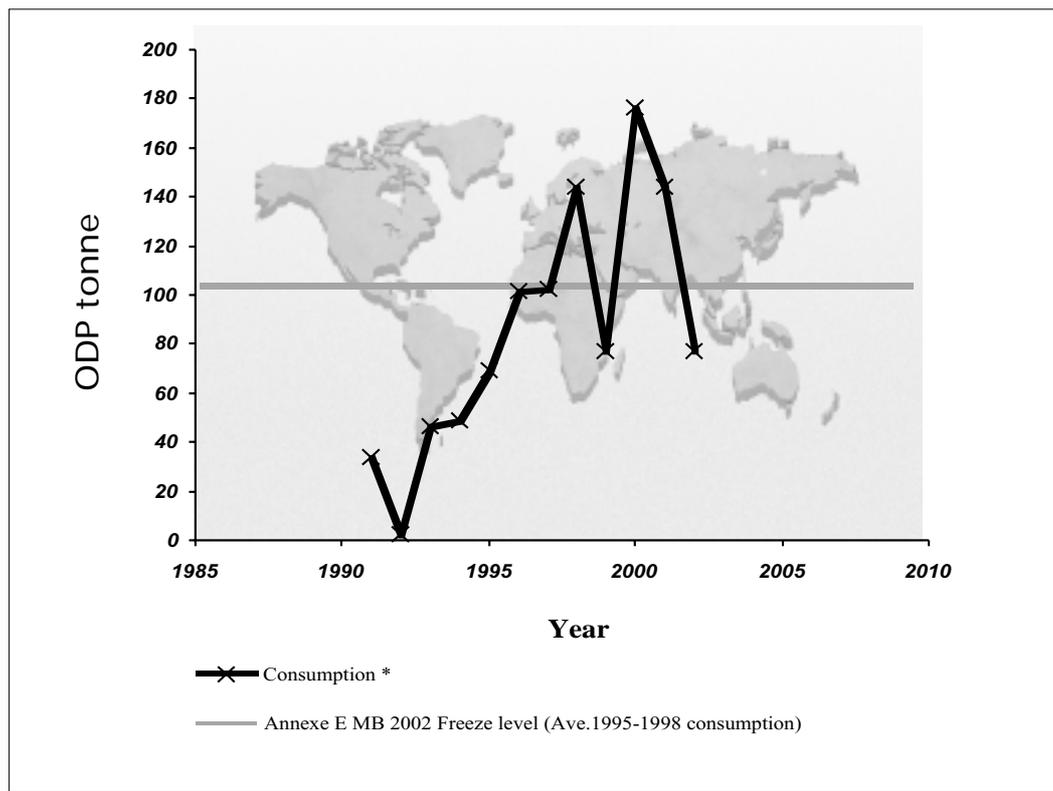


Figure 5 : MB Consumption of Ethiopia

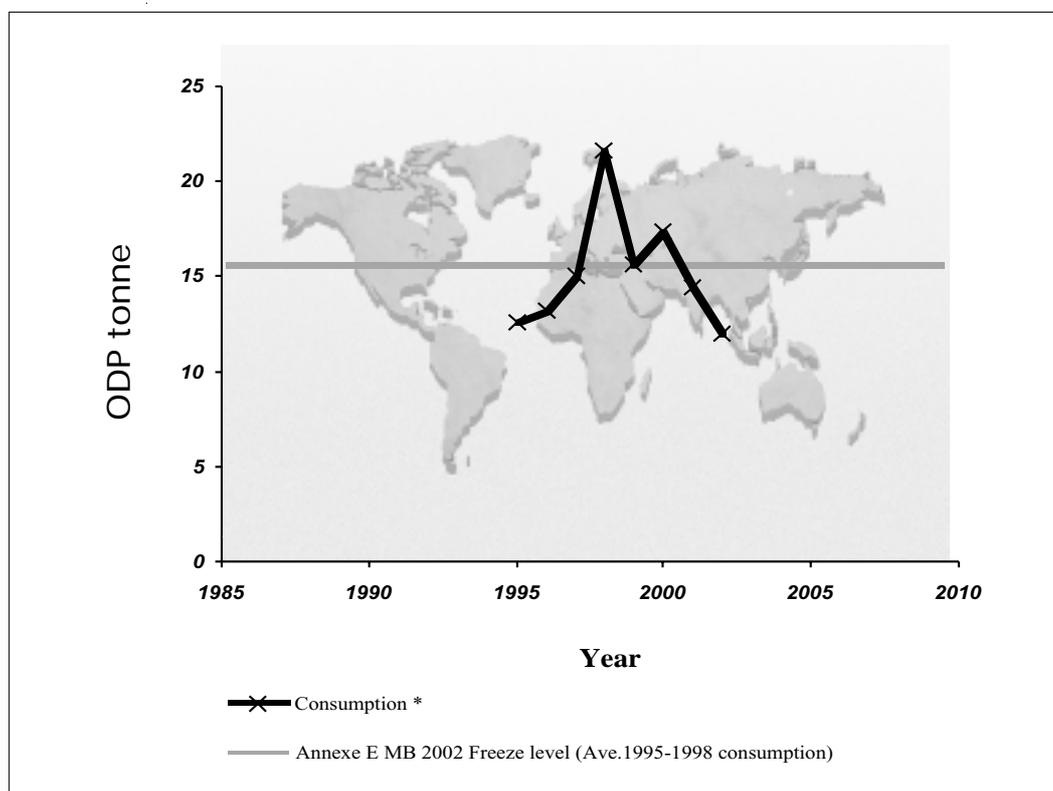


Figure 6 : MB Consumption of Kenya

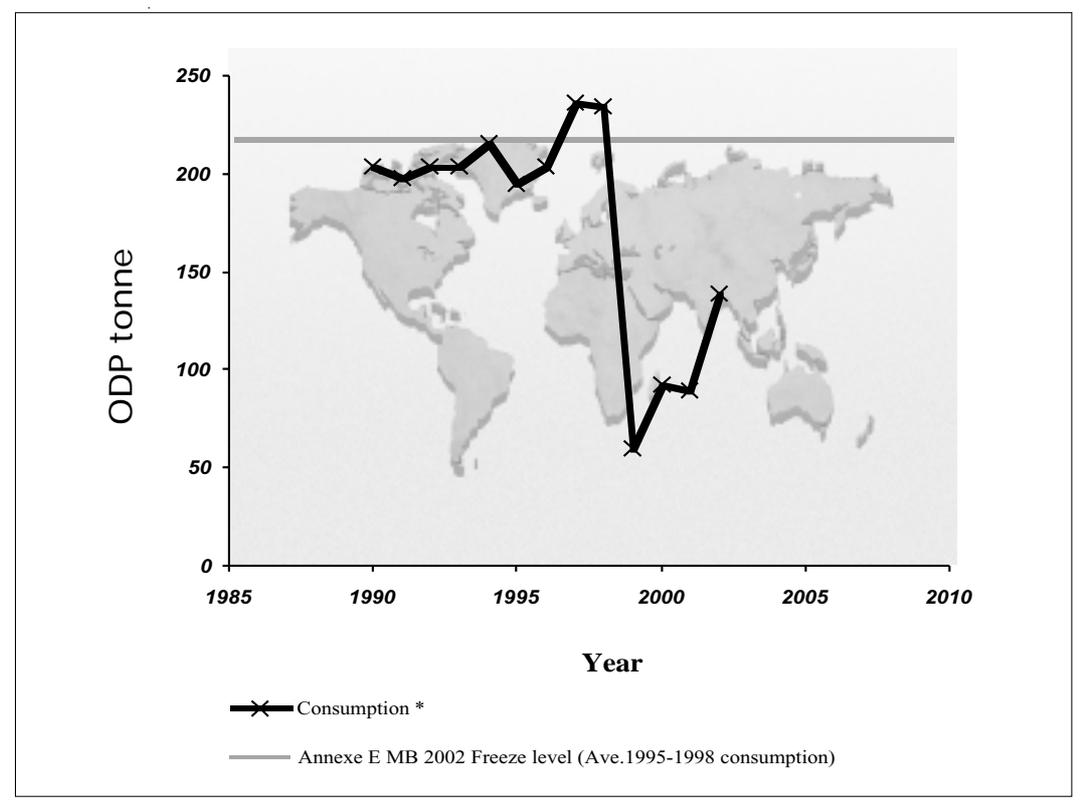


Figure 7 : MB Consumption of Malawi

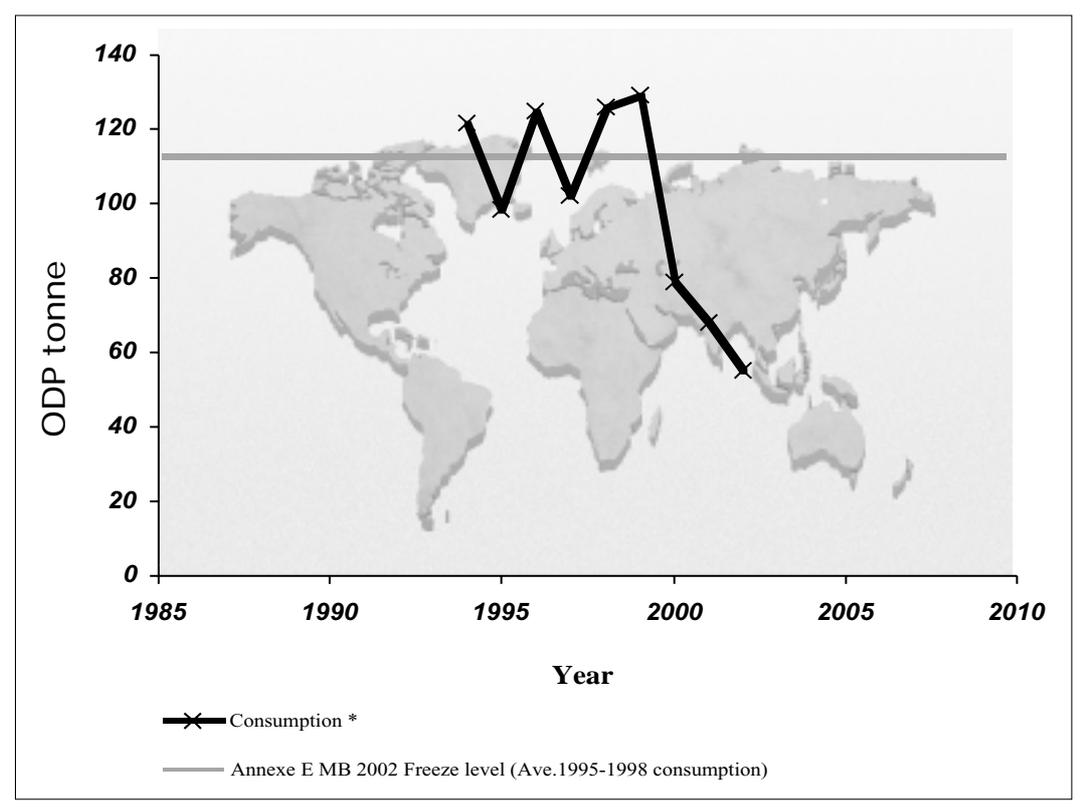


Figure 8 : MB Consumption of Nigeria

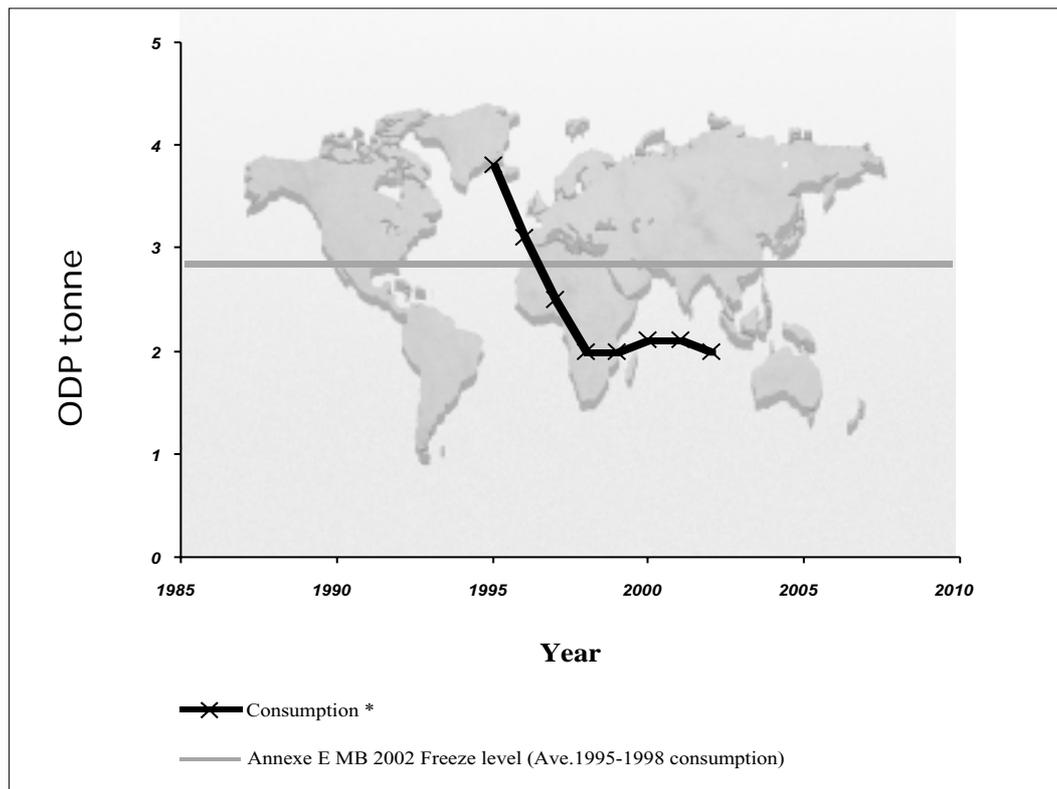


Figure 9 : MB Consumption of Philippines

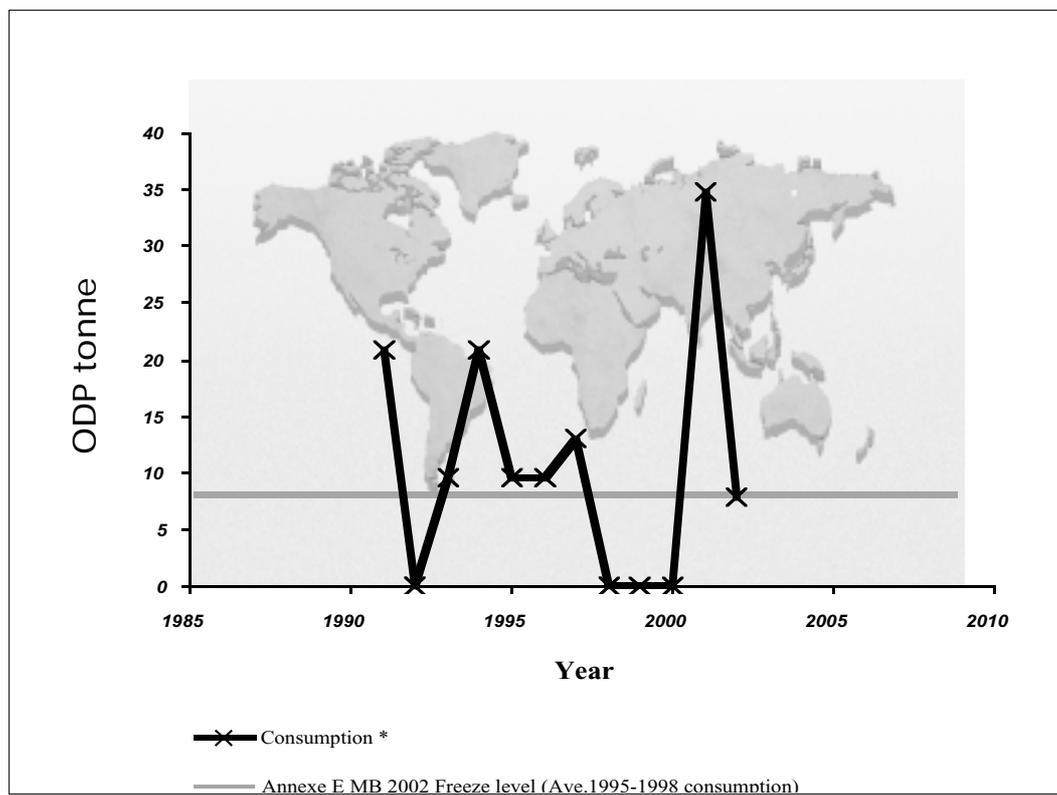


Figure 10 : MB Consumption of Senegal

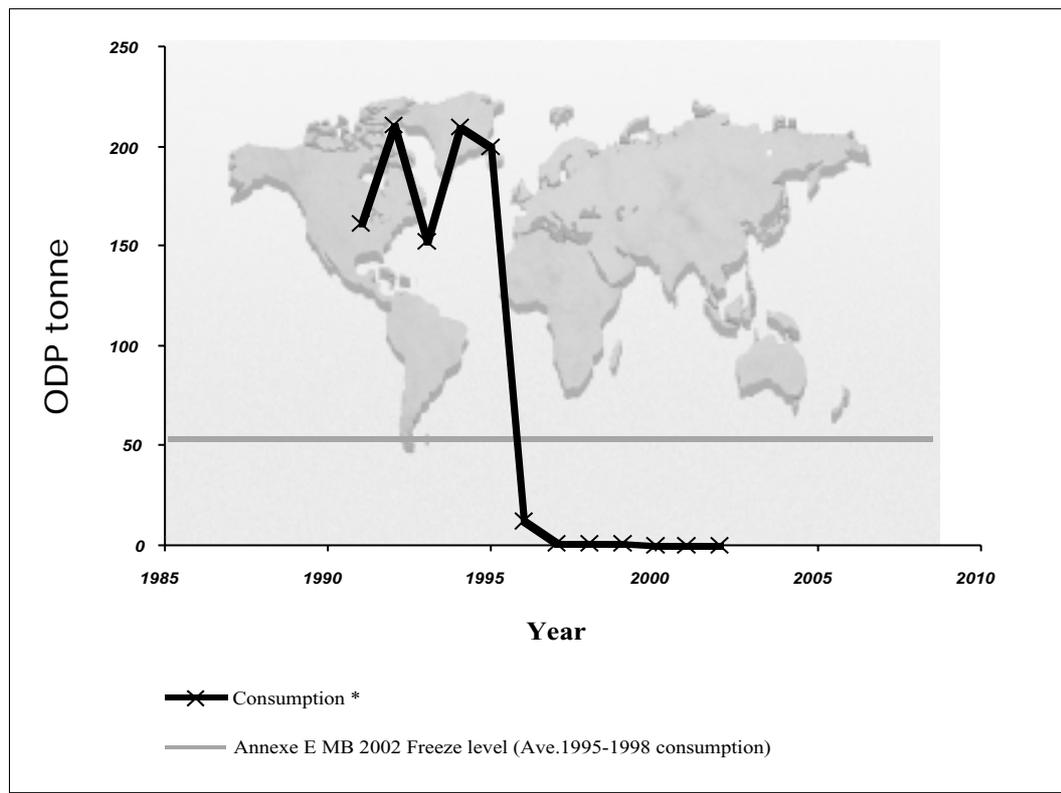


Figure 11 : MB Consumption of Thailand

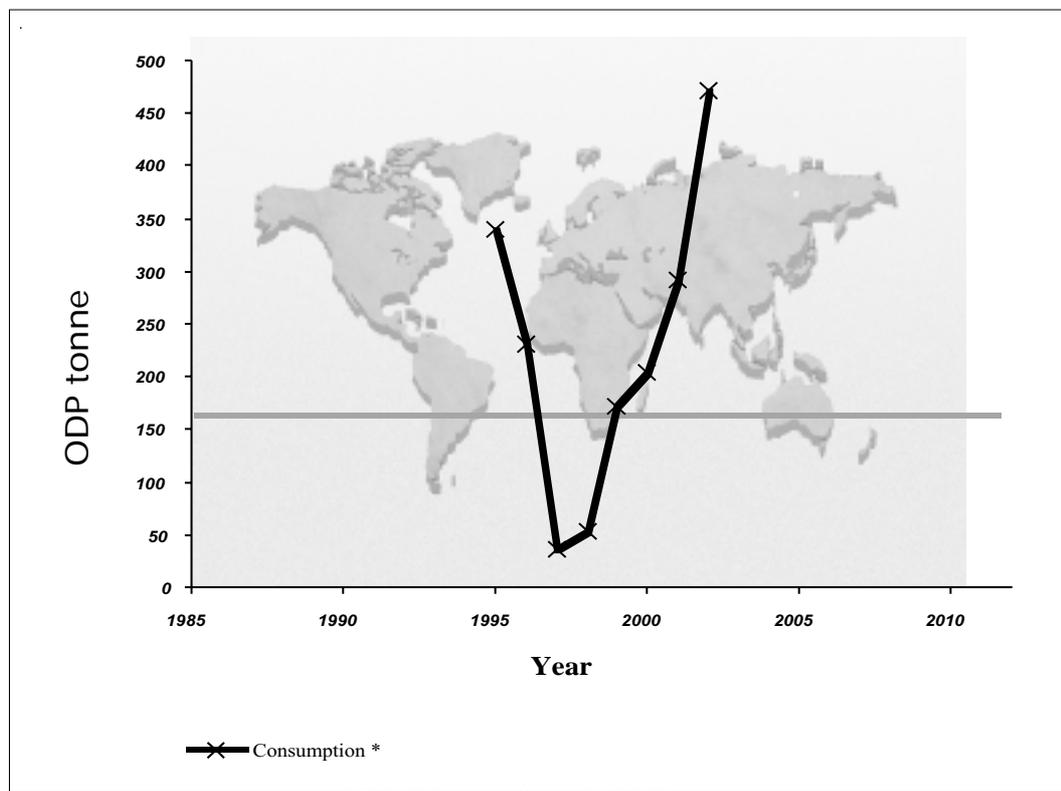


Figure 12 : MB Consumption of Zambia

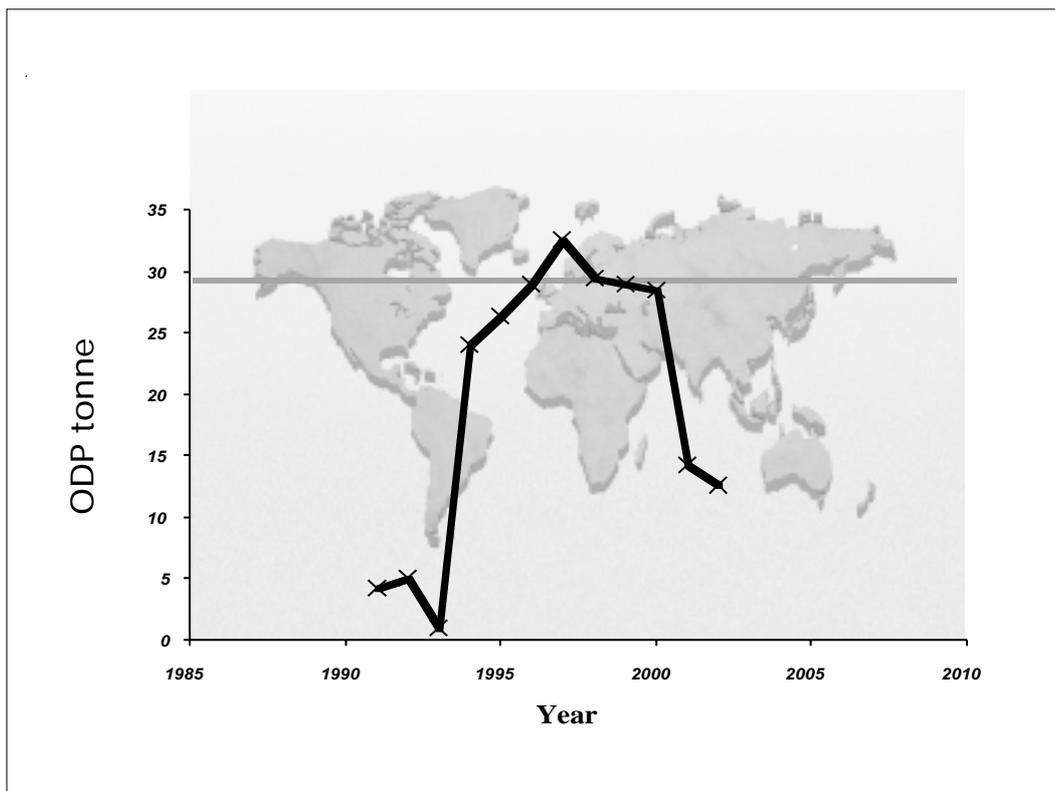
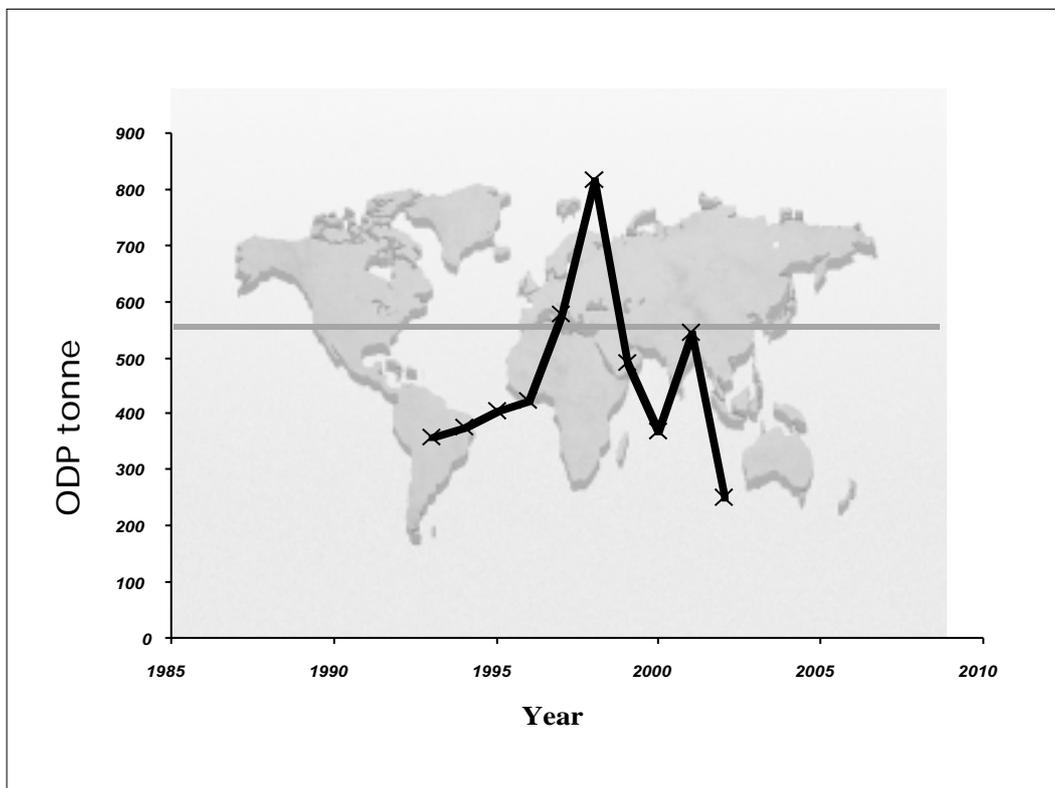


Figure 13 : MB Consumption of Zimbabwe



A cursory overall look at the consumption trends for each country is as follows:

- a/ **Cameroon:** From 1999 to 2002, methyl bromide consumption sits at 25.4 ODP t. However by 2003, after the start of MBCP activity, consumption falls to 9 ODpt, breaking the plateau of consumption of the previous 4 years, and marking a minimum consumption level as recorded by the Ozone Secretariat to the Montreal Protocol.
  - b/ **Chile:** prior to the year 2000, consumption trends rose and fell dramatically, such that in 2000, 243 ODP tonnes of MB were consumed. However in 2001, the year that the MBCP took place, the consumption more or less levelled off, diminishing slightly at 239 ODpt, and breaking the previous trends of giant fluctuations. By 2002, consumption falls off to 165 ODP t, well below the freeze level of 213 ODpt, bringing the country into compliance under the Montreal Protocol.
  - c/ **Costa Rica:** there is a levelling off in MB consumption in 2001 (the year of the MBCP activities in Costa Rica) from the 2000 level of 390 ODP t, followed by a drop in 2002 to 280 ODpt, which is below its freeze target of 342 ODpt.
  - d/ **Dominican Republic:** this country exhibited a trend of increasing consumption from 77.4 ODpt in 1999 to 176 ODpt in 2000. In 2001, the year that the MBCP took place, consumption fell to 144 ODpt. There was a further decrease in 2002 to 77.1 ODpt, well below the 104 ODpt freeze level, bringing the country into compliance.
  - e/ **Ethiopia:** MB consumption peaked at 17.4 ODpt in 2000, and fell to 14.4 ODpt in 2001 (the year of MBCP activity), and further to 12 ODpt in 2002. The country therefore was in compliance with the methyl bromide 'freeze' level of 15.6 ODpt even in 2001.
  - f/ **Kenya:** Since 1999, there has been an overall increasing trend in methyl bromide consumption. Consumption was 60 ODpt in 1999, increased to 92.6 ODpt in 2000, fell slightly to 90 ODpt in 2001, the year that the MBCP took place in Kenya, and then in 2002, after the MBCP activities had halted, there is a continuation of the increase in consumption to 139 ODpt. The country is still well below its freeze level of 218 ODpt, however, but there is a need to curtail the current consumption trend.
  - g/ **Malawi:** There has been a steady reduction in methyl bromide consumption in Malawi from 79 ODpt in 2000, to 68 ODpt in 2001, and 55.4 ODpt in 2002. The country is also well below its freeze level of 113 ODpt.
  - h/ **Nigeria:** Methyl bromide consumption fell from a high of 3.8 ODP t in 1995, falling to a level of about 2 ODP t in 1998, which has held until 2002, the last year of data on record.
  - i/ **Philippines:** In 2001, the year of the Philippine MBCP, there is a sudden rise in consumption to 34.9 ODpt after three years of zero consumption, putting the country well out of compliance with the Montreal Protocol, since its 2002 freeze level is 8 ODpt. According to the NGO, the reasons for this lay in the lack of hands-on demonstrations, and training programmes for specific methyl bromide alternatives in the Philippines, particular in the fumigation of storage spaces. Compounding this is the pressure of New Zealand that the Philippines use methyl bromide rather than alternative techniques for QPS treatments. This has encouraged fumigators in the Philippines to continue using methyl bromide for all fumigations in general (ie. even non-QPS) rather than having to source more than one fumigant.
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However after the 2001 activities of the MBCP, consumption falls off to 7.8 ODpt in 2002, bringing the country into compliance under the Montreal Protocol.

- j/ **Senegal:** In the early 1990s Senegal was a significant consumer of methyl bromide, consuming between 150 and 20 ODP t annually. However by 1997 consumption had fallen to just 0.7 ODP t for non QPS uses. Zero consumption has been reported since 2000.
- k/ **Thailand:** This country has been exhibiting a steady increase in methyl bromide consumption since 1997, and it does not appear as though the start of MBCP activities in 2001 (they continued into the first half of 2002) were of any impact on this trend. In 2001, consumption stood 291 ODpt, well above the 2002 freeze level of 165 ODpt. 2002 data confirmed that the country did not meet its freeze target, recording a consumption of 471 ODpt. The NGO of this country also cited a dearth of demonstrations and working examples of methyl bromide alternatives in his country.
- l/ **Zambia:** Methyl bromide consumption in this country rose in the early 1990s, peaking at 32.5 ODpt in 1997. Consumption stood at 28.5 ODpt in 2000 before the start of the MBCP, falling to 14.3 ODP t in 2001, the year that MBCP activities took place. By 2002, this figure had fallen further to 12.6 ODpt.
- m/ **Zimbabwe:** One sees an increase in consumption from 2000 (371 ODpt) to 2001 (544 ODpt), the year of the local MBCP activity. After the MBCP is concluded in 2002, consumption falls dramatically to 250 ODpt, well below the freeze target of 557 ODpt. It should be noted that the decline of agriculture in the country due to local political redistribution of lands was also certainly an impact on methyl bromide consumption.

Therefore in ten of the thirteen countries, namely Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Philippines, Zambia and Zimbabwe, there are decreases in methyl bromide consumption in the time since the MBCP activities began. In six of the countries (Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Philippines and Zimbabwe), the year of the MBCP marks a distinct change in consumption trends from previous years, such that the country is pulled significantly into compliance at or below their freeze consumption baselines. In Thailand, the MBCP was unable to change the trend of increasing consumption, which began in 1997. In the case of Senegal and Nigeria, the MBCP appeared to assist in keeping consumption levels at or near zero.

Given this evidence, one can conclude that the positive impacts observed in countries are likely due to the supportive role the MBCP lent to the on-going investment and demonstration methyl bromide projects in the countries. By sharing the lessons learned and the successes of other phase-out projects, it is likely that the impact of the investment projects was enhanced, and there was more effective and widespread replacement of methyl bromide across consuming sectors. This makes a strong argument for continued partnering of such awareness activities with on-going investment activities geared to methyl bromide phase out. After the evaluation of country performance in section 4.0 of this report, together with the previous trend analysis, the highlights of the NGO efforts can be summarised as follows:

- > **Survey results carried out before and after the communication programmes in all countries shows that the level of awareness of methyl bromide users increased as a result of the MBCP.** When compared to the first survey, final survey results generally demonstrate that methyl bromide users had an improved understanding of methyl bromide's effects on the

ozone layer, the international phase-out schedule and the availability of a range of methyl bromide alternatives. In several countries, less than 6 months after the end of official project activity, users are working to implement MB alternatives or demonstrations as a direct result of the MBCP. For example, CIN (Kenya) reported that 4 farmers had committed to evaluating methyl bromide alternatives in the 2002 season as a result of the MBCP's efforts, while TRB recruited 59 farmers who voluntarily conducted demonstrations of alternatives on their own farms. In some countries, survey efforts reached a significant percentage of methyl bromide users. IRET(Costa Rica) was able to interview five farms that used 587 tonnes of methyl bromide in 1999, representing 62% of total methyl bromide use in Costa Rica for that year. REA (Thailand) was able to get 170 responses for its first survey and 73 for its 2nd survey, involving a cross-section of major users across 10 provinces of the country.

- > **All NGOs effectively produced and disseminated brochures and other information materials about the methyl bromide phase out, which played an important role in raising the awareness level of users.** In most countries, methyl bromide users highly rated the overall effectiveness and use fulness of publications that were produced as part of the MBCP. Furthermore, the surveys carried out to assess awareness levels of users also provided important information on what should be included in the development of educational materials, to properly address information needed by methyl bromide users. Amongst the educational materials generated by the countries, it is estimated they produced over: 14,410 brochures and booklets; 11,000 posters and fliers; 3500 desk and wall calendars; 1,995 newsletters; 100 videos; 400 audiocassettes; 200 T-Shirts; 5000 stickers and two countries developed an e-mail network information distribution system. There were also an unspecified number of pens, blotters and other paraphernalia produced.

NGOs extensively used existing agricultural networks to widely disseminate their awareness materials in a cost-effective manner, including farmers' annual congress, agricultural and commercial shows and many other relevant forums. ECAZ (Zambia) and the TRB (Zimbabwe) were particularly effective at doing this. In addition they copied and distributed UNEP educational materials as needed.

Annex 4 of this report shows some examples of the awareness materials generated by the NGOs during the MBCP.

- > **All NGOs successfully organised workshops, field demonstrations and other meetings that increased users' knowledge about the methyl bromide issue and provided an opportunity for users to gain hands-on, practical experience about various alternatives.** A total of 25 workshops were held and attended by nearly 800 participants in total, including methyl bromide users, government officials, farmers' association, pest control operators, NGOs, researchers and other key stakeholders. Surveys indicate that generally, participants gave positive feedback on the organisation of the workshops and learned new and useful information about alternatives. Many meetings, field days, seminars and presentations were also organised by the NGOs. For example, the TRB (Zimbabwe), organised two methyl bromide alternatives field days with 100 farmers in attendance, and four field days to demonstrate tobacco seedbeds, attended by over 200 farmers, to give them the opportunity to learn more about the
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alternative seedbed technology in a practical, hands-on manner. PAN-PHIL organised 6 workshops on methyl bromide alternatives with a total of 229 participants, effectively reaching the major methyl bromide users and pest control operators in the Philippines. ENDA-Ethiopia organised a collaborative awareness exercise with an innovative methyl bromide alternatives project with the Ethiopian Tobacco Enterprise (a major methyl bromide consumer in the country), which focused on evaluating solarisation and soil amendments.

- > **Many NGOs were successful in generating national media coverage about the MBCP (newspaper, radio, TV). They effectively raised awareness among the general public and methyl bromide users about methyl bromide alternatives and the results of demonstration projects.** Through media activities, it can be estimated that tens of thousands of methyl bromide users and members of the general public were informed about the methyl bromide phase out and methyl bromide alternatives through the MBCP. Indeed there did appear to be an impact on behaviour, as 10 of the 13 countries exhibited a downturn in methyl bromide consumption since the MBCP (see section 5 of this report). The amount of press coverage on the methyl bromide issue varied from country to country, depending on the country situation and the strategies employed by the NGOs. Most NGOs were successful in publicising the programme in national newspapers, agricultural journals, radio and in some cases on TV. For example, IRET generated a great deal of national media coverage in Costa Rica, where eight radio channels covered the methyl bromide issue, five newspapers wrote articles and the Government TV station and the main TV news report ("7 dias") did programmes on the topic.

In many cases, NGOs provided information about alternatives identified in demonstration projects, especially those projects located in their own respective countries, in brochures, fact sheets and other educational materials. An equally effective approach taken by many NGOs was to have presentations about the demonstration project at workshops or to organise field visits where users could see how alternatives worked. The major focus of the workshop organised in Chile by CODEFF, for example, was a presentation by the Ministry of Agriculture about the results of the Institute for Agricultural Research (INIA) demonstration project, which generated a significant amount of interest among methyl bromide users. ECAZ (Zambia), IRET (Costa Rica) and the TRB (Zimbabwe) were also able to show users practical 'hands-on' examples of how alternatives might be implemented.

- > **In all countries, the MBCP enhanced the capacity of NGOs to promote methyl bromide alternatives and also brought together a wide range of stakeholders.** The organisation of meetings and workshops proved to be especially important in improving coordination among all methyl bromide stakeholders and building the capacity of all organisations involved. ENDA-Ethiopia's efforts demonstrate this point very compellingly - as a result of the MBCP in Ethiopia, and the impression that the efforts of this NGO made on stakeholders, a formal network of all methyl bromide stakeholders was created to identify future actions needed to replace methyl bromide. Several other NGOs also cited enhanced cooperation with their NOUs since participating in the MBCP (eg. CODEFF of Chile, CURE of Malawi, PAN-Philippines, ECAZ of Zambia, TRB of Zimbabwe).

The MBCP also provided a unique opportunity for agencies and farmers to learn more from NGOs' skills and expertise, and for NGOs to increase their knowledge, networks and outreach capabilities.

- > **The MBCP appears to have a real impact on the rate of methyl bromide phase out of participating countries.** Therefore in ten of the thirteen countries, namely Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Philippines, Zambia and Zimbabwe, there are decreases in methyl bromide consumption in the time since the MBCP activities began. In six of the countries (Cameroon, Chile, Costa Rica, Dominican Republic, Ethiopia, Philippines and Zimbabwe), the year of the MBCP marks a distinct change in consumption trends from previous years, such that the country is pulled significantly into compliance at or below their freeze consumption baselines. These positive impacts observed in countries are likely due to the supportive role the MBCP lent to the on-going investment and demonstration methyl bromide projects in the countries. By sharing the lessons learned and the successes of other phase-out projects, it is likely that the impact of the investment projects was enhanced, and there was more effective and widespread replacement of methyl bromide across consuming sectors. This makes a strong argument for continued partnering of such awareness activities with on-going investment activities geared to methyl bromide phase out.

Another long-lasting benefit of the MBCP is helping to get governments to sign the Copenhagen Amendment. Four countries in the MBCP that had not signed Copenhagen Amendment when the MBCP was initiated are Ethiopia, Dominican Republic, Philippines and Zambia. At the end of the MBCP in 2001, two of these four countries, the Dominican Republic and the Philippines, had ratified the Copenhagen Amendment. At the end of the MBCP in 2001, two of these four countries, the Dominican Republic and the Philippines, had ratified the Copenhagen Amendment, and stated that the MBCP had raised the profile of methyl bromide issues.

Annex 3 of this report contains Case Studies of those countries which were able to be particularly successful with the MBCP, managing to achieve above-expected levels of stakeholder cooperation and participation, and incorporate elements such as field day demonstrations and extensive awareness-raising.

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## 6.0 - LESSONS LEARNED

While NGOs were successful in meeting the objectives of the MBCP, important lessons have been learned from this project that are relevant for future activities and projects in the future. Lessons learned is especially important for this project, since it was the first project under the Multilateral Fund to provide funds to NGOs around the world to promote the phase out of an ozone-depleting chemical.

The Second Consultative Meeting of NGOs under the Methyl Bromide Communication Programme (16-18 September, 2002) was crucial in gathering the NGO's assessment of their experience under the MBCP. Annex 5 of this report contains the tabled information gathered from the NGOs during the meeting. The sheets of the NGOs mentioned in this Synthesis Report are included in the Annex. Thus, based on general feedback received from the NGOs and participants in the course of the MBCP, as well as the consultations during the Second Consultative Meeting of NGOs, the following are key lessons learned from this innovative project:

**1/ More time was needed for the NGOs to implement the MBCP.** The time needed to carry out the various activities under the MBCP was woefully underestimated in the original project design. Initially, total project was set at 12 months, where 4-6 months were to be spent with UNEP and PANNA working with NOUs to help them finalise their nomination of NGO for the project participation. The remaining 6-8 months then could be dedicated to the execution of MBCP activities by the NGO. However, in several cases, getting the NOUs final approval and nomination of the NGO was actually a far lengthier process than anticipated. Further, particularly when one considers the geographical and socio-political barriers to easy outreach in some of the countries, 6 months was really too short a time for the NGO to properly implement the MBCP. Many NGOs commented that it was extremely difficult to implement a communication programme in such a short time and this was especially true in those countries where there are infrastructural and other types of problems. Also, some countries stated that extra time was needed to translate surveys and awareness materials into local languages to make them usable and understandable. Then the actual execution of the surveys took considerable time, as several NGOs had to use face-face visits to get responses from users, and/or spend considerable time with phone/fax follow-up obtaining information. The MBCP involved the implementation of many awareness-raising activities (media coverage, information dissemination, workshops), which would do well to be sustained over a longer period of time in order to have a major impact. Many of the people giving feedback also stressed the need for continuation of the MBCP to provide the assistance needed to help growers switch to alternatives.

**2/ The survey forms were too complicated for users in some sectors, and, in the case of companies or large consumption private enterprises, sometimes solicited information considered confidential.** Some NGOs felt that the surveys were not easily understandable by users (particularly rural farmers), so that the NGO had to spend considerable time working with respondents to complete the surveys. It was felt that in the future surveys should be designed by the NGOs themselves, based on a criteria set by UNEP. Some private enterprises simply could or would not share information they felt was sensitive.

**3/ Credible technical information and practical field demonstrations of alternatives was very important in persuading growers to seriously consider alternatives.** Many of the experiences with the MBCPs demonstrated the importance of the NGOs having credible technical information about alternatives that are appropriate for the farmers'

specific situation. Only relying upon general information and awareness-raising activities does not go far enough. This was reflected in many survey responses, where respondents gave very favourable feedback to technical information and demonstrations, which provided them with information, or skills they could use. Respondents in all countries also repeatedly requested more technical information and assistance to help them in identifying and adopting alternatives, so this appears to be the area where more focus is needed in the future. In some cases, however, NGOs stated that a simplification of technical materials is necessary to reach certain, less literate stakeholders. Translation issues, as aforementioned, were also sometimes a complication to information sharing.

**4/ NOU participation and cooperation with the NGOs in the MBCP varied widely from country to country.** In a few cases, NGOs reported that political sensitivities sometimes played a part in keeping the NOU aloof of the MBCP activities. Other NGOs reported that due to the extensive travel about the rural areas of their country involved in carrying out the MBCP, some NOUs simply could not afford the time away from their desks in the city capitals to become a part of many MBCP events. In some cases, overloaded NOUs were simply glad for assistance in carrying out national awareness on ODS issues, and turned their attention to other duties, allowing the NGO to take the lead on much of the work.

**5/ In-country demonstration projects or access to demonstration experts greatly enhances the impact of the MBCP (and vice-versa), such that there should be formal partnering of future MBCP activity with on-going demonstration projects.** The MBCPs of Zambia, Zimbabwe, and Costa Rica are evidence of this, as the NGOs in these countries got far more stakeholder interest, commitment and in some cases actual changes of behaviours in the use of MB. Even if actual 'hands-on' field day demonstrations are not possible, even access to an expert or results from another demonstration project (eg. in the case of Chile and Ethiopia) can go a long way to getting stakeholder interest. Whilst some of the NGOs were able to partner and share information with other relevant on-going investment projects in their country, however, at the end of the MBCP, several NGOs suggested that future project designs should formally allow for partnering with in-country methyl bromide phase-out investment activity.

**6/ The networking and information exchange among NGOs was important in developing and implementing the MBCP.** The role of PANNA in promoting an exchange of information among the NGOs was important in building NGO capacity on this issue and in giving NGOs new ideas for how to go about developing the project. The NGO Consultative Meetings also proved to be invaluable in helping NGOs further develop their strategies and in learning more about how the methyl bromide issues were being tackled in other countries. In many cases, NGOs learned important information from each other (for example, about alternatives being used in one country that could be appropriate for their country, strategies for implementing the project, etc.) and also exchanged information materials or other resources that can help them in their project. However, the observed effect of the early withdrawal of PANNA from project activities, together with the fact that the MBCP is finite, indicates the need for a more permanent support system of the NGOs. Indeed, there was an error made in selecting a developed country NGO to act as a support to the developing country NGOs which, outside of the MBCP activity, did not have its own in-house methyl bromide programme. And so when MBCP funding ran out due to the delays in the nomination process, a key part of the support for the developing country NGOs was lost. A permanent network would link global NGOs and experts, and enable NGOs to continue their work in supporting MB phase out. There might also be a closer linkage forged with the UNEP Global Communication Strategy as well as the Regional NOU Networks of UNEP.

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**7/ The financial resources provided for each NGO was generally inadequate to cover the actual logistics involved in carrying out the required activities of the MBCP.** The MOU for each NGO to carry out national activities was for US\$12,000. NGOs spent a considerable part of these resources on in-country travel, translation of the surveys and some materials into local languages or dialects, media coverage, and in some cases even incentives to encourage workshop participation (particularly where long distances were involved and participants needed per diems). This was not taken into consideration in the original project budgets for countries. Also the production of awareness materials such as coloured brochures and videos was particularly taxing on the NGOs budget. In the future there must be more careful assessment of possible expenses that might be incurred in implementing such programmes in developing countries which are often large in size, of limited infrastructure, and with widely dispersed stakeholders.

## 7.0 - FUTURE ACTIVITIES

This section outlines the recommendations and comments of the NGOs that have been gathered across the course of the MBCP as well as during the 2nd Consultative Meeting of the NGOs (held September 16-18, 2002 in Nairobi).

Methyl bromide users who participated in the MBCP in all countries repeatedly identified the need for continued awareness-raising activities and technical assistance to assist them in adopting methyl bromide alternatives. NGOs and participants in the MBCP have emphasised the importance of building upon the momentum created by the MBCP and the need to continue these types of activities over the long term to ensure that methyl bromide use is reduced to meet the Montreal Protocol phase-out requirements.

The chart below summarizes more specific information about the needs of methyl bromide users in each country and possible future activities that have been proposed. This information has been collected by the NGOs through the feedback provided by participants in the MBCP (through survey forms, workshop evaluation forms, etc.).

**TABLE OF SPECIFIC COUNTRY NEEDS**

<b>Country</b>	<b>Identified Needs of Methyl Bromide Users in MBCP</b>	<b>Possible Future Activities/Projects</b>
Cameroon	Need for more technical experts and technical information in local, simplified language that can be understood by farmers. More resources needed for outreach in general.	More data, technical assistance, training and workshops to implement alternatives. Establishment of formal network of methyl bromide stakeholders, and provision of materials in local languages.
Chile	Most growers want to move to methyl bromide alternatives but need more technical information and assistance to adopt alternatives.	More data, technical assistance, training and workshops to implement alternatives.
Costa Rica	Need for more technical information on methyl bromide alternatives.	More technical information, on-farm research and demonstrations.
Dominican Republic	Good knowledge of alternatives but main concern is that alternatives are not as effective or as cheap as methyl bromide.	More on-farm trials and research to get more effective and cost-effective alternatives.
Ethiopia	Need for more technical information to evaluate and implement alternatives and better linkage between researchers and methyl bromide users.	<ul style="list-style-type: none"> <li>- Establishment of formal network of methyl bromide stakeholders</li> <li>- trials to test alternatives,</li> <li>- funds for demonstration and implementation of alternatives.</li> </ul>
Kenya	Good knowledge about alternatives but more assistance is needed to effectively implement alternatives.	<ul style="list-style-type: none"> <li>- MBCP should continue</li> <li>- more farm visits and talks</li> <li>- more information materials were needed.</li> <li>- additional demonstration projects</li> <li>- more active involvement in Farmer Field Schools should also be done.</li> </ul>
Nigeria	Poor farmer knowledge of MB issues in general, and a poor connectivity between stakeholders to keep awareness levels up.	Creation of a local/regional MBCP Network for purposes of keeping awareness levels high. Future awareness workshops and campaign on alternatives.

Country	Identified Needs of Methyl Bromide Users in MBCP	Possible Future Activities/Projects
Senegal	Need for more technical information in local, simplified language that can be understood by farmers. Stakeholders generally mistrustful and reluctant to exchange information related to MB issues.	Establishment of formal network of methyl bromide stakeholders, and provision of materials in local languages.
Thailand	Need for more technical assistance to implement cost-effective alternatives	<ul style="list-style-type: none"> <li>- More studies and technical assistance on alternatives</li> <li>- More coordination among governments dealing with methyl bromide phase out</li> <li>- More assistance from REA working group and government on training for implementing alternatives</li> </ul>
The Philippines	Need for more hands-on demonstrations and training to adopt alternatives.	<ul style="list-style-type: none"> <li>- hands-on demonstrations and training programmes for specific methyl bromide alternatives</li> <li>- more intensive information campaign focused on radio, TV</li> <li>- consultation workshop with stakeholders about plan for methyl bromide phase out</li> <li>- monitor all users to determine if uses are for QPS or non-QPS</li> </ul>
Zambia	Need more information about alternatives. Another major constraint of adopting alternatives is the large capital costs associated with the floating seedbed system.	<ul style="list-style-type: none"> <li>- More technical information, especially about experiences of Brazil, Zimbabwe and other countries with floating seedbed system</li> <li>- Financial assistance and resources to adopt alternatives</li> </ul>
Zimbabwe	Good level of knowledge on alternatives but more technical assistance needed to make the switch.	<ul style="list-style-type: none"> <li>- more research on specific alternatives,</li> <li>- more extension services,</li> <li>- more information about the floatbed technology,</li> <li>- more facts and booklets,</li> <li>- more field days and financial assistance</li> </ul>

### *Output from the 2nd Consultative NGO Meeting: the NGO MB Communication Network.*

During the 2nd Consultative Meeting of the NGOs, the NGOs raised a need for the formation of a permanent support system to allow them to continue long-term activity in supporting methyl bromide phase out in their countries. Since there was considerable support for better communication between NGOs, so that there could be better sharing of experiences, mutual enhancement of expertise and the like, discussions focussed on the Potential Strategies for the Setting up of an NGO MB Communications Network.

The participants listed the possible parameters and characteristics of a potential Network, and the results of their discussions are reproduced below.

<p><b><i>Mission of Network:</i></b></p>	<p>To promote and enhance information exchange to build on a long-term supportive network on the MB issues. It should be noted that this future activity should take place within the context of the UNEP Global Communication Strategy and the regional ODS Officers Network, to further ensure that awareness messages are streamlined, and to lend support to NGO awareness efforts.</p>
<p><b><i>Objectives of Potential Network</i></b></p>	<ol style="list-style-type: none"> <li>1/ Share the experience and relevant information on MB issues which are pertinent to the NGOs work in raising awareness on MB phase out, and on regional and/or local demonstration projects.</li> <li>2/ To synergize efforts aimed at phasing out MB at the national and global level.</li> <li>3/ To provide the linkages and pertinent information for the preparation of fully consultative country projects aimed at phasing out MB in a co-ordinated and informed manner.</li> <li>4/ To provide a direct linkage to NOUs, other experts, expert networks or organisations, who might directly participate in MBCP activities that will culminate into lateral transfer of alternative technologies which might replace MB use.</li> <li>5/ Place the NGO in contact with experts, and other NGOs, who might answer SPECIFIC technical questions related to the implementation of the MBCP, or any such future approach.</li> </ol>
<p><b><i>Who will Host/ Manage the Network on a global/regional scale?</i></b></p>	<p>The first step proposed to the group was using the regional ODS Officers Network, and the Compliance Assistance Programme of UNEP, where the regions will each gain a central MB officer. This officer might act as the coordinating centre of a potential NGO-NOU regional network; and the officers of each geographical region might facilitate communications BETWEEN regional networks. Therefore the potential would now exist for the CAP MB officer to act to coordinate the relevant NGO, NOU and any other implementing agencies or relevant organisations to generate comprehensive phase out country projects, with fully informed technical and awareness-raising components.</p>

	<p>The group was concerned on the “abstract nature” of proposals to date, and wished the workshop report to reflect the earnestness with which they wish to see the Network become a concrete reality. As such, they welcome the earliest opportunity to participate in discussions on the potential structure of a formalised network.</p>
<p><b>Who will be a part of the Potential Network?</b></p>	<p>CAP MB officers, NGOs, NOUs, other relevant experts (whether from Implementing Agencies, the MBTOC etc.), research institutes and stakeholders (eg. pest control/phytosanitary and regulatory agencies, private companies involved in MB use etc.)</p> <p>Do you see this Network as Temporary or Long term (ie at least until the 2015 phase out for Article 5 countries)?</p> <p>Given that QPS is currently exempt from control, as well as the ongoing debate on critical use exemptions within the Montreal Protocol, the group felt that there is a need for a longer term supportive network (recognising that the ExCom will not fund anything past 2008).</p> <p>The text generated from these discussions was agreed on by all present during the meeting, as the NGOs felt very strongly about the need for this proposal to be acted on and made a reality. The group was also informed about the intention of UNEP to seek support for NGOs, within the context of enhancing UNEP’s collaboration with Civil Society in the global implementation of programmes.</p>

## 8.0 CONCLUSIONS

Despite the fact that there is clearly room for improvement in the design of the NGO Methyl Bromide Communication concept, it is evident that there is considerable merit in the approach. This report shows quite clearly that NGOs, even in poor developing countries, have great potential to influence users of methyl bromide in their countries, and positively impact on the countries phase out of methyl bromide. This is largely due to the fact that NGOs, unlike the NOU, can channel their full attention into the business of reaching out and educating farmers on relevant issues and alert them about the results of on-going projects on methyl bromide phase out, making significant penetration into the consuming sectors. The NGO is also invaluable in reaching the rural farmer or user, and giving the level of attention necessary to educate these types of stakeholders.

UNEP is committed to seeking further support for the NGOs to sustain the momentum built by this pilot activity. NGOs have the potential to greatly enhance the impacts of any investment phase out projects, and so have a very real and unique role to play in the total phase out of methyl bromide. However, they cannot fulfil their potential without further technical and financial support of the Multilateral Fund, so that they might work in a more formalized relationship with the demonstration and investment project activities in their countries, and enhance the impact of such projects. As UNEP is currently in the process of redefining the approach and context of the regional ODS Officers Networks, as well as setting up the Global Communication Strategy, a likely way forward might be to somehow incorporate NGO networking with the already-existing ODS Officers networks. UNEP will henceforth endeavour to work with the NGOs and other agencies and organisations, to improve the design of the Methyl Bromide Communication Programme, so that, should the ExCom lend its support, newer, more impacting MBCPs can be carried out in countries in the near future.

## Annex I

### Survey Forms Designed by PANNA for Use in the MBCP

#### *Baseline Survey of Methyl Bromide Users*

For each country in the Methyl Bromide Communications Programme, we would like to start with a diagnostic description of the current level and type of methyl bromide use. The survey is primarily a tool for you to use to understand who uses MB in your country and how you can best educate these users about the risks and alternatives to this pesticide. This information will be essential for you to design the appropriate outreach to MB users and to evaluate the success of this project. Please use the following questions to survey farmers and other users of methyl bromide in your country.

In order to get a clear picture of MB use in your country, we hope you will use this survey to contact farmers/MB users that make up at least 25-50% of the MB use in your country. In addition to farmers, methyl bromide (MB) users may include:

- 1/ Government or private enterprise – for treatment of stored commodities
- 2/ Government or private institutions – for quarantine treatment of shipped commodities
- 3/ Golf courses, other recreational areas, landscaping projects

### QUESTIONS FOR SURVEY

#### I. Current Methyl Bromide Use

Do you use methyl bromide (MB)?

If yes, please answer the following questions.

- > On what crops or commodities do you use this pesticide?
- > For how many years have you used MB?
- > When and where (from whom) did you learn about methyl bromide?
- > What did you use before methyl bromide?
- > What pest problems do you use MB to control?
- > Do you also use other products to treat the same problems?
- > How effective is MB compared to other treatments?
- > From whom do you buy MB?

● How often was it used by you or your company in 1998: \_\_\_\_\_

\_\_\_\_\_

in 1999:

\_\_\_\_\_

in 2000:

\_\_\_\_\_

● What total quantity was used in:

1998: \_\_\_\_\_, in 1999: \_\_\_\_\_, 2000: \_\_\_\_\_

- How is MB applied? (explain methods employed)
- you hire outside applicators, whom do you hire?
- How many workers are involved in MB applications?

## II. Knowledge of Risks

- To your knowledge, is MB safe if used properly?
- What constitutes “proper” use?
- Where did you learn about appropriate application methods?
- What, if any, risks to human health or the environment are associated with MB?
- What problems, if any, have you experienced with the use of MB?

## III. Knowledge of International Restrictions

- Do you know about MB’s effect on the ozone layer? Is so, what is this effect?
- Do you know that MB will be phased out in developing and industrialized countries under the international Montreal Protocol treaty?
- Is so, what details do you know about the phase out schedule for MB?
- Do you think that these international restrictions will affect your use of MB?

## IV. Knowledge of Alternatives

- Do you know about alternative treatment methods to MB?
- If so, what alternatives are you aware of?
- From whom did you learn about the alternatives?
- Have you tried alternatives yourself? Is so, which ones?
- How did these alternatives perform?
- What assistance do you need to learn more about alternatives to MB?
- What assistance would you need to implement alternatives to MB?

## V. Contact Information

Name of individual: \_\_\_\_\_

Name of company/agency: \_\_\_\_\_

Type of business: \_\_\_\_\_

Your name/position: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Postal Code: \_\_\_\_\_

State/Province: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_ Website: \_\_\_\_\_

## FINAL SURVEY

### Effectiveness of Methyl Bromide Communications Programme

1/ In the last few months, did you receive or learn information about methyl bromide (MB) from ..... ? (NGO: fill in your name here) (if no, go to question 19)

2/ If yes, did you attend a meeting or workshop hosted by \_\_\_\_\_ (NGO name here)? (if no, go to question 4 ) If yes, where or when was the meeting/workshop?

3/ How would you evaluate the workshop or meeting on a scale of 1 to 5 (1=poor, 5=excellent)

- a. quality of speakers 1 2 3 4 5
- b. quality of written information 1 2 3 4 5
- c. location and/or facilities for the workshop 1 2 3 4 5
- d. information presented about MB (health impacts, alternatives, etc) 1 2 3 4 5
- e. overall organization of the workshop 1 2 3 4 5
- f. other comments about the workshop:

4/ Did you receive or see written information about MB from \_\_\_\_\_ (NGO name here)? (if no, go to question 7)

5/ If yes, what type of written information did you receive or see (brochure, flyer, etc)?

6/ How would you evaluate the effectiveness of this information: (1=poor, 5=excellent)

- a. easy to read and understand: 1 2 3 4 5
- b. contained new information I did not know: 1 2 3 4 5
- c. answered most questions I had about MB: 1 2 3 4 5
- d. helped me to identify/adopt alternatives to MB: 1 2 3 4 5
- e. other comments about written materials:

7/ Did you participate in the earlier survey conducted by \_\_\_\_\_(NGO name here)? (if no, go to question 9 )

8/ If yes, how would you evaluate the effectiveness of that survey (1=poor, 5=excellent)

- a. the survey was easy to understand and easy to answer : 1 2 3 4 5
- b. (if survey was conducted in person) the person conducting the survey was easy to work with and clear about the aims of the survey : 1 2 3 4 5
- c. I learned new information about my farm's/company's use of MB by completing the survey : 1 2 3 4 5
- d. other comments about the survey:

9/ In the last few months, have you seen information about MB in your local newspaper or heard about this pesticide through radio/television programmes or from other farmers, agricultural trainers, etc. ? (if no, go to question 11)

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10/ If yes, please tell us what programme you heard or article you saw. Did this article/programme increase your knowledge about MB? What new information did you learn?

***Increase in Knowledge about Methyl Bromide***

11/ In the last few months, have you learned more about MB as a result of (NGO name here) efforts/activities? (if no, go to question 18)

12/ If yes, did you learn more information about the effects of MB on human health and the environment? If so, what new information did you learn?

13/ Will this information influence the way you use MB? If so, how?

14/ Did you learn more about the international phase out schedule for MB? If so, what new information did you learn?

15/ How will this information about phase out schedules effect your farm or ncompany?

16/ Did you learn more about alternatives to MB that are appropriate for your farm or for your company? (if no, go to question 17) If yes, what new information about alternatives did you learn?

a. Will you try to use this alternative in your farm/company? (if no, go to question 17)

b. If yes, where will you obtain this alternative or how will you begin to use it?

c. Who will you ask to assist you in trying or implementing this alternative?

d. When will you try using this alternative?

e. What benefits or problems do you anticipate from trying this alternative?

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17/ What additional help or information do you need to implement or try alternatives to MB in your farm or company?

18/ Did you have direct contact with \_\_\_\_\_(NGO name here) through meetings etc during the last few months? (If no, go to questions 19.) If yes, how would you evaluate the overall effectiveness of this organization's efforts (1=poor, 5=excellent)

- a. NGO staff was helpful and easy to work with : 1 2 3 4 5
- b. information from NGO was appropriate/useful to my situation: 1 2 3 4 5
- c. I learned new information about MB and MB alternatives : 1 2 3 4 5
- d. other comments about effectiveness of \_\_\_\_\_ (NGO name here) efforts to educate MB users about this pesticide and its alternatives?

19/ Your Contact Information

Your name/position: \_\_\_\_\_

Name of company/agency: \_\_\_\_\_

Type of business: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Postal Code: \_\_\_\_\_

State/Province: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_ Website: \_\_\_\_\_

20/ For our future efforts to reach other MB users, what specific activities would you recommend as the best way to educate farmers/MB users about alternatives to this pesticide?

21/ Other comments:

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**Thank you for completing this survey! Your answers will help us determine the effectiveness of our efforts and how to improve information and activities about MB alternatives in the future. We would greatly appreciate learning about your future activities to replace MB or your need for more assistance or information.**

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## Annex 2

### CASE STUDIES HIGHLIGHTS, AS SUBMITTED BY THE NGOS (COSTA RICA, ETHIOPIA, PHILIPPINES, ZAMBIA, ZIMBABWE)

#### *A/ Costa Rica*

**Fabio Chaverri, Instituto Regional de Estudios en Sustancias Tóxicas (IRET) –  
UNIVERSIDAD NACIONAL**

#### **Summary**

Costa Rica is among the countries that have become high level Methyl Bromide (MB) user in recent years, and have rapidly accelerated use as a soil fumigant mainly on melons and cut flowers. The MB is use to control soils pest like nematodes, fungi and weeds control. On 1999 the Costa Rican Government start with UNDP a Demonstration Project with support of farmers, agriculture research institutions (public universities) and a NGO.

On March 2001 start a communication program supported by UNEP to raise awareness about methyl bromide alternatives. The main objectives were to make a survey with melon and cut flower growers before and after of the following extension activities: two workshops, a national activity with participation of high level government delegates, a press release send to main newspapers and a video send to main national television news.

At the end of the project the main MB users and general public were well informed about the MB as ozone depletion substance, the Montreal Protocol phase out process, and the main alternatives that Costa Rican growers can adopt on their own farms. The chosen alternatives technologies are solar heating (only on melon), steam (only on cut flowers), cover crops, organic amendments, and other soil fumigant and non-fumigant pesticides, all in combination with an integrated pest management strategy.

#### **Background**

Costa Rica, it is among the countries that have become high level MB user in recent years and that have rapidly accelerated use of the fumigant. Between 1995 and 1998 the average consumption was 765 tons, and in 1999 increase to 946 tons, an increase of 23%. The main use of MB is for soil fumigation in melon and cut flowers, other crops like bananas and vegetables seedlings consume small amounts of the fumigant. Melon and Cut Flower growers use MB to control mainly soil pests: nematodes (*Meloidogyne* sp) and fungi (*Rhizoctonia* sp, *Fusarium* sp, *Phytium* sp, *Phytophthora* sp), and for weed control (*Cyperus* sp).

On July 21, 1998, The Legislative Assembly of Costa Rica, approved the act # 7808 recognizing the Montreal Protocol Amendment concerning to Ozone Depleting Substances, the Annexes adopted on the Second Meeting (June 29, 1990), and the Fourth Meeting of The Parties (November 25, 1992). In 1999 Costa Rican Government start the National Program for MB phase out with two demonstration projects (melon and cut flowers). The main agriculture research centers of the public universities, melons and cut flowers growers associations and an environmental NGO initiate a collaborative working group to find and test alternatives proposed by Montreal Protocol.

The projects were designed to show alternative technologies to the use of MB as a soil fumigant in melons and cut flowers. The chosen alternative technologies are solar heating (only on melon), steam (only on cut flowers), cover crops, organic amendments, and other soil fumigant and non-fumigant pesticides, all in combination with an integrated pest management strategy.

### Approach

Project operation the following phases:

- initial coordination meeting with all NGO's and UNEP coordinators
- an initial survey for melon and cut flowers growers,
- an extension process that involve the participation with the ongoing Demonstration Project: two workshop for MB users awareness and the national activity with the high level government delegates,
- a video and press releases for the main TV and newspapers
- final survey to evaluate the impact

### Impact

- 1/ Surveys before workshops represent more than the 60% of total MB used in Costa Rica. The main result was that they know only few things about MB impact on ozone layer and apply alternatives like metam sodium and 1,3-D other are under analysis on small plots.
- 2/ Final surveys made after the workshops represent 30,3% of total MB used in Costa Rica. 100% have general knowledge of MB effect over ozone layer, and Montreal Protocol restrictions, 100% knows that is very dangerous for human health. The alternatives that the farmer knows: Solarization (75%) metam sodium (75%), 1,3-D or Telone (62%), Organic amendments (25% Chloropicrin (25%). The kind of help that they want: Technical Information (38%), Research on farm (63%)
- 3/ National Activity. Participation of Dra. Elizabeth Odio, the Costa Rican Vice-President. Lecture "Government role on environmental politics". M.Sc. Fabio Chaverri (IRET-UNA), lecture of methyl Bromide and the Costa Rican Phase out program. Video presentation "The fifth commandment, a way to preserve the environment". The Extension Program video for MB users awareness in Costa Rica. M.Sc. Sonia Marta Mora (UNA Principal). Lecture "Universidad Nacional, and his environmental programs". Participants: researchers from universities, university students, journalist (radio, newspaper, tv), melon farmers, cut flower farmers, independent consultants, NGO, agrochemical companies, local government representatives, representatives from Health Ministry, representatives from Environmental ministry, From Public Universities Principals Committee, FAO, Costa Rican Ozone Unit.
- 4/ National diffusion of MBCP and MB topics. By radio (Radio 16 Grecia, Radio Sideral San Ramón, Radio Alajuela, Programa Enlace Regional, Radio Nacional, Radioperiódicos Rolando Angulo, Radio Columbia. All join represent the main radio news. By Newspapers: La Voz de la Pampa (Guanacaste), Anexión (Guanacaste), El Cartaginés (Suplemento de La Nación

en Cartago), La República (second newspaper of Costa Rica), La Nación (main newspaper of Costa Rica). By TV on special program on August by Government TV (Environment Ministry space television) and the main TV news report (7 días).

### Lessons Learned

- At this time we have very good results: Coordination between university researchers, government, NGO's and MB users works very well. The projects promote those alternatives with less human health and environment risk and some of them show potential. The experiences interchange between researchers and growers is very important on the extension process. MB users associations are very open to prove and adopt alternatives.
- Although we have good results some challenges are ahead: 2002 freeze. For Costa Rica, this means a big reduction of current use for year 2002, close to 20%, and a second big reduction to 2005 (another 20%). Research related to the human health and environment impact of the MB alternatives need to be adopt on next future.

## *B/ Ethiopia*

### Mr. Fantahun Assefa - Enda Ethiopia, MBCP

#### Summary

Methyl bromide (MeBr) has been in use in Ethiopia since 1960 for the treatment of grain products and soils, averaging 30.8 metric tonnes of consumption between 1994 and 1998, declining at present to 6-7 metric tones. As one of the ozone depleting substances MeBr will be phased out by 2005 and 2015 in developed and developing countries respectively. To meet the aforementioned deadline, UNEP DTIE had started the MBCP as part of its OzoneAction Programme as a way to involve NGOs like Enda-Ethiopia to educate farmers and others about MeBr and its alternatives.

Accordingly, the MBCP/Enda-Ethiopia could coordinated a meeting with a wide range of stakeholders, carried out a survey to identify the largest MeBr users, distributed education materials produced by the MBCP and the UNEP DTIE OzoneAction, held two workshops, study tours, and distributed information through mass media, journals and web sites. Likewise, proceedings of workshops were distributed to participants and concerned body.

To implement the MBCP, different approaches like discussion surveys through questionnaire; meetings/workshops/study tour; production of education materials etc. were practiced. The MBCP had different impacts and lessons learned that hopefully can serve as a bench marks for future similar intervention.

#### Background

MeBr has been in use in Ethiopia since the 1960 for treatment of grain products and soil. Its consumption reached a peak in the early 1970s. According to the survey result conducted in 1995 the total consumption of MeBr was 21.0, 30.0, 32.0, 35.0 and 36.0 metric tones in 1994, 1995, 1996, 1997 and 1998 respectively. The major proportion of MeBr consumed in 1994 for quarantine treatments was 42%, for soil

treatments 29% and the same amount for post-harvest treatments.

MeBr is one of the most known ozone depleting substance (ODS) that depletes the Earth's protective ozone layer and thus it is scheduled to be banned under the Montreal Protocol treaty in industrialized nations in 2005 and in developing countries in 2015 (with stepped reductions along the way). Hence, to help developing countries like Ethiopia meet the aforementioned deadline; UNEP DTIE had started the MBCP as part of its OzoneAction Programme as a way to involve NGOs like Enda-Ethiopia to educate farmers and other users about MeBr.

The MBCP/Enda-Ethiopia started its intervention meeting with wide range of stakeholders like the National Ozone Unit (NOU), the National Tobacco Enterprise and others to gather information about the largest consumers of MeBr in the country. The subsequent survey carried out through the MBCP ascertained the amount of MeBr consumed from 1998 to 2000 was sharply declining at a national level, and was only 5-7 tones, which is only 0.01% of the world consumption. The survey result showed that most of the government agencies and the private fumigation companies had adequate knowledge of MeBr risks and others had very little knowledge about risks and health impacts.

The MBCP in Ethiopia produced a 15 brochure on "MeBr User and Phase Out in Ethiopia" and a flyer on "Alternatives to MeBr in the context of Ethiopia". Also, two proceedings of the workshops including the findings of the outcome of first travel trip to the MeBr alternative demonstration on effectiveness of solarization as an alternative to MeBr. Moreover, available materials i.e. written and different videocassettes were compiled in one and distributed to stakeholders at an institutional base.

To disseminate information about the MBCP and the MeBr and its alternatives as wider as possible two consecutive 10-minute interviews were aired to a national audience through the Ethiopian National Broadcast Corporation. Provided that an article was published by "Akirma" Journal of Forum for Environment and information were sent to web sites like "Akababi" and "Moseb-inter-Africa Group/Horn of Africa. The aforementioned articles focused on the dangers of MeBr to human health and the environment; detailed information about the international phasing out schedule of ODS and etc.

To determine impacts of the MBCP in Ethiopia, a final survey was carried out, accordingly, more than 70% of the respondents were certain that the quality; the usefulness and the explanation made on alternatives to MeBr were very good.

At last, to sustain the UNREP DTIE OzonAction Programme initiative in Ethiopia, the MBCP/Enda-Ethiopia in collaboration with NOU, the Environmental Protection Authority (EPA) of Ethiopia and other stakeholders endeavored to establish a network under the umbrella of EPA, which involve all stakeholders as a executive or regular member of the networking.

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## Approach

To ameliorate planned activities the following approaches were exercised by the MBCP:

- individual and focus group discussions; survey via questionnaires,
- meetings/workshops; paper presentation;
- production of education materials i.e. ; poster presentation; compilation of proceedings; production of reports at different stage of the programme
- outreaches to mass media;

## Impact

- Escalate the ratification process of the Copenhagen Amendment and the effort to implement the Environment Policy of Ethiopia in full swing.
- Increased awareness of stakeholders towards the grave consequences caused by the loss of the protective action of the ozone layer that absorbs UV.B.
- Positive attitudes towards the use of alternatives in place of MeBr for the control of soil borne pest.
- Better access to education materials produced by the UNEP DTIE OzonAction Programme and MBCP/Enda-Ethiopia.
- Group dynamics between stakeholders (GOs, NGOs and private companies) enhanced.

## Lessons Learned

- Appreciation/acceptance of NGOs role and their involvement in development issues.
  - Absence of local agents and external register, which is a prerequisite for the importation of any pesticide including MeBr.
  - Possibility of smuggling of MeBr from neighbouring countries that possibly escalating the informal use MeBr in the country.
  - The test protocol of Ethiopian Agricultural Research Organization restrict researchers to be involved in researches on Class 1A products including methyl bromide which is a bottle neck problem for importers to have local efficacy data to fulfill the registration requirements.
  - Feasibility of joint endeavours to prepare proposals to be submitted to donors like GEF and others to enable researchers to do further demonstrations on the effectiveness of alternatives to MeBr.
  - Information gaps between large users and the pesticide registration office of the MoA.
  - Contemporary preferences of the large users in particular the Ethiopian Grain Trade and the National Tobacco Enterprises to MeBr.
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## *C/ Philippines*

### **Sampaguita Quijano - Pesticide Action Network - Philippines**

#### **Summary**

The Methyl Bromide Communications Programme of the United Nations Environment Programme was implemented in order to help prepare developing countries for the eventual phase out of Methyl Bromide, which is widely being used as a fumigant. An initial survey was implemented in order to assess current Methyl Bromide use in the Philippines. Workshops were then conducted as part of an information dissemination campaign on the phase out. Radio and print media were also utilized to further the cause of the Programme. At the end of the project, a final survey was done in order to assess the effectiveness of the Programme.

#### **Background**

Methyl Bromide (MB) is a fumigant being used around the world for soil fumigation, fumigation of perishable goods for quarantine, fumigation of durable goods, and structural fumigation. However, since MB has been identified as an ozone-depleting substance, it is scheduled to be banned under the Montreal Protocol treaty in industrialized nations in 2005 and in developing countries in 2015.

The United Nations Environment Programme (UNEP) Ozonation Programme started the Methyl Bromide Communications Programme (MBCP) to involve NGOs and agricultural organizations in developing countries, to educate farmers and other users about this pesticide.

Pesticide Action Network-Philippines (PAN-PHIL) was selected to implement the programme in the Philippines, which was one of the 10 developing countries chosen for the project. The MBCP was implemented to help users reduce their reliance on methyl bromide, and to help them in transition to other pest control alternatives in time for the upcoming methyl bromide use reductions. The following are the objectives of the project :

#### *General Objective:*

- 1/ To reach the largest MB users in the country and raise their awareness about the MB phase out, the availability of alternatives and actions that can be taken to phase it out.

#### *Specific Objectives:*

- 1/ To conduct an initial survey to determine MB use in the Philippines.
  - 2/ To develop written materials such as brochures that will be used to increase awareness of the MB phase out and MB alternatives.
  - 3/ To conduct workshops for MB users to increase their awareness of the MB
  - 4/ To publicize the MBCP, the phase out of MB, and MB alternatives through newspapers, radio, and crop association magazines, etc. to widen the audience and increase knowledge about the project and about MB.
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- 5/ To identify and communicate with government agencies, crop associations, export associations, and other groups throughout the project that could be helpful in identifying users, attending workshops/meetings and disseminating results.
- 6/ To conduct a final survey of users to determine their increase in knowledge and their plans to use alternatives to MB.
- 7/ To complete a final report on the project to be submitted to UNEP.

## **Approach**

The approach of the project was to first determine the importation of MB in the Philippines and pinpoint the (current and potential) users of MB. Information was obtained from the Philippine Fertilizer and Pesticide Authority (FPA). Once the users were identified, the programme concentrated on reaching this group. The project was mainly directed towards the Certified Pesticide Applicators (CPA), since they are the only ones authorized by the FPA to handle MB. These CPAs are either work as pest control operators (PCOs) or as in-house CPAs of companies that use MB, such as milling companies.

After identifying the current and potential users of MB, an initial survey was implemented to determine the extent of MB use in the Philippines. From FPA data on MB importations, 2 of the 4 major importers of MB distribute the fumigant to PCOs. Thus, the survey was done among PCOs and among the major importers of MB in the Philippines.

Survey forms were sent by fax and distributed during workshops. Phone interviews and a company visit were also done. Survey forms were collated, and the data analyzed. The completed survey report was then sent to UNEP.

Preparation of public awareness materials was done while the initial survey was being completed. The materials were produced for distribution during workshops and meetings. A 37-paged brochure entitled "Methyl Bromide : getting ready for the phase out" was developed. 60 copies of the brochure were produced. A 6-paged newsletter bearing the same title was also developed. This was done to provide MB users a short, easy-to-read primer on MB alternatives. The newsletter discusses methyl bromide and its effect on the ozone layer, the Montreal Protocol, Methyl Bromide consumption, its uses, and alternatives. 225 copies of the newsletter were produced.

Workshops were then conducted mainly for pest control operator groups (PCOs), since they are the organizations to which CPAs belong. A total of 6 workshops were conducted by PAN-PHIL These are with the following organizations: Philippine Association of Professional Fumigators (PAPFI); Pest Exterminators Association of the Philippines (PEAP); PILMICO (milling company); Philippine Association of Certified Pesticide Applicators; Agricultural Pest Control Officers Symposium; MB user companies, NGOs, and a government agency (Fertilizer and Pesticide Authority).

Throughout the duration of the project, a media campaign was being implemented. A nationwide broadcast interview about the Methyl Bromide Communications Programme was held. The radio talk show host was Ms. Angie Cunanan of the United Nations Development Programme. Dr. Romeo Quijano, the president of PAN-PHILS, was interviewed about the MBCP, and among the topics discussed were the Montreal Protocol, the schedule of Methyl Bromide phase out, and alternatives to Methyl Bromide.

The MBCP also received print media coverage in the following publications: The Philippine Star (nationwide daily newspaper) , The Manila Bulletin (nationwide daily newspaper), Village Mail (village newsletter), Agribusiness Digest (agricultural magazine),

BalikKalikasan (environmental newspaper), Business and Environment (environmental magazine).

Final (evaluation) survey forms were distributed during workshops and meetings. Survey forms were sent via fax, and phone interviews were also conducted. From the results of the final survey, the effectiveness of the MBCP was assessed.

### **Impact and Lessons Learned**

From the initial survey, only about half of the respondents said they use MB. The use of MB seemed to be limited to a number of PCOs, and to the companies which directly imported MB (such as milling corporations). Overall, the MBCP was received favorably among the MB users in the Philippines. Almost all of the MB users are CPAs or Certified Pesticide Applicators. They are the only ones authorized by the Fertilizer and Pesticide Authority (FPA) to handle MB, since MB is a restricted fumigant under FPA regulations. From the collective response in the workshops and surveys, MB users are open to considering the use of MB alternatives in their respective plantations/companies. In fact, some of the respondents are already using MB alternatives such as rice hull burning, and phostoxin. One major setback, however, specially for pest control operators (PCOs), are the import requirements of countries such as New Zealand. These MB users say that the restrictions force them to use MB, and thus limit their opportunity to use an alternative.

Plantations who formerly used MB are now using alternatives such as rice hull burning. Some of these companies also have a Research and Development Department, which develops methods that they use as alternatives to MB.

There is a high level of awareness among MB users about the scheduled phase out of MB, its effects on health and the environment, and the alternatives to MB. This is a favorable condition for preparing the Philippines for the eventual phase out of MB.

The project was able to reach the largest MB users in the country. These users are the PCOs and the agricultural CPAs. About 25% of total MB importations were covered by the initial survey alone. The MBCP was able to raise MB users' awareness about the MB phase out, the availability of alternatives and actions that can be taken to phase it out, as reflected in the results of the final survey. The MBCP was also able to achieve the specific objectives stated earlier in the report.

However, there are some limitations of the program. During the project, only a small percentage of users were able to come across PAN-PHILS print and radio campaign. Respondents have suggested TV as a medium to consider. PAN-PHILS has concentrated its media campaign mostly on print media as it is the cheapest and is more far-reaching than TV, since not all households in the Philippines have TV. Radio was also used, but this medium was not fully utilized. Among the setbacks were the limited time slots available, and only a few radio hosts were willing to include the topic in their programs.

Despite the fact that only a few were able to come across the print media and radio campaign, the program was still able to reach out to the major MB user groups through several workshops.

Another limitation was the lack of hands-on demonstrations, and training programs for **specific** MB alternatives for specific users. This requires project proposals, approvals from concerned companies, and equipment. Also, technical speakers on the details of the actual practical application of alternatives were lacking.

Respondents to the final survey have suggested ways in which we can best educate farmers/MB users about alternatives to MB. A more intensive information campaign concentrating on using radio can be done in the future. TV also seems to be a highly popular medium among the respondents, and it is suggested that this can be used in

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future campaigns also. However, it may turn out to be a more expensive way to go about the campaign. Trainings, workshops, and demonstrations on **specific** MB alternatives are also needed to follow-up the MBCP campaign.

It is very important to follow-up the campaign for the phase out of MB. Awareness has been heightened by the MBCP, and it is essential that the MB users be able to find continued help and support for the use of MB alternatives. Much still needs to be done, but the way has already been opened. It is expected that further actions will be taken to assist the country in moving towards the phase out in 2015, involving the concerted help of NGOs, government agencies, and concerned MB users determined to shift to alternatives.

## *D/ Zambia*

### **Lovemore Simwanda- Environmental Conservation Association of Zambia (ECAZ)**

#### **Introduction**

Zambia has been fortunate in the sense that, the issues of Methyl Bromide phase-out process were already being discussed even before the MB communication Programme came to being. The Environmental Conservation Association of Zambia working very closely with the Tobacco Association of Zambia on developing a Methyl Bromide phase-out project in view of the phase-out schedule effected after the MB had been listed as an Ozone depleting substance 1995.

A Tobacco growers own initiative on the Methyl Bromide phase-out pilot project called **"Bite the Bullet"** in search of alternatives was embarked on with a good number of Tobacco Farmers who were trying half to four hectares of float beds of irrigated and dry land plantings. This pilot project was made possible through a loan support from the European Union Development project/Enhancement Exporter Support Mechanism (EDP/EESM) Secretariat and national authorizing office. This support further, apart from making possible to bring in inputs to try out float beds, also made it possible for the Tobacco Association of Zambia to hire a well known consultant on commercial application of float beds systems in plant production.

#### **Initiating the MBCP**

The Environmental Conservation Association of Zambia as an initial step under took the task of identifying key stakeholders in the Methyl Bromide Phase-out Communication programme. The first step was to enhance the already existing working relationship with the National Ozone Unit and through the same office identify some other stakeholders mainly individual farmers, distributors, government Ministries, Farmers union, exporters, importers, Bureau of standards etc.

The communication programme was implemented in three regions of the country namely Central, Lusaka and Southern provinces where the use of Methyl Bromide was quite evident. The investigation on the levels of use and availability of MB was done through questionnaire and focus group discussions during the field visits. While Information dissemination about the communication programme was done through a number of media already available and various forums such as farmer's newsletters, email news flash, ZNFU annual congress, farmer's commodity meetings, Agriculture and commercial show, Radio live call in (Voice of the Farmer) and also during the English speaking countries Ozone Officer's Network meeting in Lusaka at which a Mulungushi declaration was made for those countries that had not yet ratified the Copenhagen Amendment to do so, at the earliest possible date.

### Impact of MBCP

It is clear that there is decrease of Methyl Bromide use in the country with figures being about the 35.2 tones before the MBCP and to about 26.5 tones from the results of the final communication survey programme activities. Below are three tables showing the level of use before and after the communication programme including the actual reduction after the final programme survey, which clearly indicates that with a slightly more intensive programme the impact will be much more and be able to meet the phase-out schedule requirements without serious set-backs.

**Table: Showing MB use Before Programme**

Sector	Estimate MB in Kg	% Usage	Remarks
Tobacco	24,500	69.6	
Greenhouse Crops	9,650	27.4	
Storage	1,050	2.98	
<b>Total</b>	<b>35, 200.0</b>		

**Table: Showing MB use After Programme (Final Survey)**

Sector	Estimate MB in Kg	% Usage	Remarks
Tobacco	18,000	51.2	
Greenhouse Crops	7,506	22.9	
Storage	1,050	2.98	
<b>Total</b>	<b>26,556</b>		

**Table: Showing MB use Reduction**

<b>Sector</b>	<b>Estimate MB Reduction in Kg</b>	<b>% Reduction</b>	<b>Remarks</b>
Tobacco	6,500	18.6	Significant Reduction - Most Tobacco farmers Keen on the programme though limited
Greenhouse Crops	2,144	4.5	A fair reduction in such Extremely new commercial crops
Storage	1,050	2.98	No reduction has observed as also difficult to monitor use
<b>Total</b>	<b>18,544</b>	<b>23.1</b>	<b>This reduction is by tobacco and Greenhouse crops</b>

### **Farmer Groups Own Campaigns**

It is also very evident that farmer groups according to their crop commodity affiliations have started a number of farmer to farmer campaigns on the intended Methyl Bromide phase-out awareness programmes according to the Copenhagen phase-out schedule, though limited in nature. The farmer commodity groups that were and still seen to be fairly active in this campaign are the Tobacco and Horticulture/Floriculture growers including the organic producers and processors whose members mainly grow for export and hence the appreciation of the phase-out calendar as their international markets could be seriously affected and slump. The distributors and marketers of Methyl Bromide have not taken a keen interest in encouraging the clients to look at possible alternatives, as they seem to think that they might fail sale whatever stocks they have in their warehouses. However, the Zambia National Farmers Union in collaboration with the Environmental Conservation Association of Zambia is encouraging its members to adopt certain alternatives to Methyl Bromide such as listed below:

- > Float trays
- > Cow dung
- > Pine Bark
- > Solarisation
- > Hydroponics

To do the campaign the farmer commodity groups are using the materials developed during the communication programme such as audiocassettes, Brochures recorded Radio and Television programmes.

### Links & Developments

During the communication programme activities implementation, a number of links within the region with institutions that had much more experience and expertise working on alternative were initiated and developed. The organizations with whom links were developed are namely the Kutsanga Tobacco Research Station in Zimbabwe; Agriculture Research Institute in Malawi and the Agriculture Consultative Forum, which is the technology, mouth piece on agriculture in Zambia.

The regional links did prove to be very useful to Methyl Bromide users and distributors, as it did provide them with opportunities to attend field days, specialized training this is very true in the case of Kutsanga Tobacco Research Station in Zimbabwe and farmer to farmer information exchange between experienced Zimbabwean tobacco farmers and the learning Zambian farmers.

### Future Challenges

The phase-out process in Zambia faces a number of huddles and challenges that should be addressed with the urgency it deserves, especially in relation to the following issues:

- > Zambia as a country needs to take the issue of ratifying the Copenhagen Amendment of the Montreal protocol seriously, especially that the country has declared the Agriculture sector to be its main economic engine and people's livelihood main stay.

The Copenhagen Amendment if done by the Zambian Government authorities will go a long way in maintaining the European agricultural crop export markets.

- > It is important if it is possible to have second phase of the communication programme, to emphasize the introduction of cost-effective alternatives with simple applicable technology for easy adaptability.

The United Nations Environment Programme should help to make it possible for Zambia to receive a grant from UNIDO like to the one being offered to Brazilian farmers, as a way of encouraging the quick phase-out process and adapt to new production alternatives. The grant programme should give 100% grants to small-scale farmers and 50% grants to large-scale growers, for period of about four to five years to encourage grower adhere to the phase-out schedule especially that Zambia is a very poor country.

### Way Forward

- There is need for UNIDO to reconsider is position on establishing an Investment project on alternatives in Zambia, this will go a long in encouraging the farmers currently trying alternatives with their own limited resources
- UNEP to try to get some more funding to double the current efforts of the communication programme, for the implementing organizations to make real impacts that will be ever lasting in the Methyl Bromide users and distributors

## *E/ Zimbabwe*

### **Gareth R. Thomas - Tobacco Research Board (TRB)**

#### **Background**

For Zimbabwe and other Developing Countries the schedule for phasing out methyl bromide is as follows:

MBr freeze in 2002  
Reduce use by 20% in 2005  
Complete phase-out in 2015.

The implementing agency in Zimbabwe, the Tobacco Research Board (TRB), is intimately involved with the largest sub-sector using methyl bromide and had already started work on alternatives and on basic information about the above phase-out schedule in 1997. Following a two-year demonstration project, sponsored by UNIDO, and again implemented by Tobacco Research Board, the TRB was asked by UNEP (United Nations Environment Programme) to implement the above project in Zimbabwe as part of a 10-country project (Chile, Costa Rica, Dominican Republic, Ethiopia, Kenya, Malawi, Philippines, Thailand, Zambia and Zimbabwe). The prime aims were to raise awareness among farmers and all methyl bromide stakeholders about methyl bromide, its dangers and subsequent phase-out, available alternatives and the results of demonstration projects carried out using those methyl bromide alternatives.

#### **Methyl Bromide consumption in Zimbabwe is currently as follows:**

Tonnes per annum	% MBr used
500	66% - Tobacco growers (commercial and small growers)
220	29% - Export flower growers
35	4.6% - Durable commodities
3	0.4% - Other horticultural crops
758	Total Offtake

The TRB worked in close consultation with the Assistant Ozone Manager at the Zimbabwean National Ozone Unit (Ministry of Environment and Tourism) and with Pesticide Action Network North America (PANNA) for this project. The programme started by conducting a survey to assess the level of awareness about the phase-out of methyl bromide in the Zimbabwe. It then proceeded by adapting and distributing existing and new educational materials, and disbursing information about MBr alternatives (collected) developed by local demonstration projects.

***Implementation of the programme involved:***

- 1/ initial meetings with farmers, crop associations, government officials, extension agents etc. to explain the project and to elicit their suggestions
- 2/ drafting and distributing of brochures/flyers about MBr in Zimbabwe to be used in workshops, meetings, mail shots etc. - in English, and the vernacular
- 3/ conducting on-farm meetings which included training where possible
- 4/ district workshops or field days and discussion groups to give farmers hands-on learning experiences about specific alternatives available
- 5/ disseminating existing MBr publications (local and international) to grower's associations, extension officers and other parties
- 6/ establishing outreach and contacting all stakeholders through newspapers, farmer publications/newsletters, Radio programmes that are popular among growers
- 7/ conducting a final survey at the end of the programme to assess new levels of awareness as a result of the MBCP and to establish whether the project met its objectives
- 8/ providing a full report to PANNA /UNEP about the project, activities implemented and survey results - by 31 October, 2001.

***Our stated GOALS were to:***

- help farmers reduce their reliance on MBr
- help them to move to alternatives before the agreed MBr reductions are enforced.

**Approach**

We generally followed the above implementation plan, but it soon became apparent that early extensive publicising of the phase-out and educating stake-holders was best achieved through written articles in magazines and newspapers, and brochures and flyers circulated to every registered tobacco and flower grower in the country, being 95% of all methyl bromide users. These at least helped to heighten the profile of the problem. The flyers were also sent to a list of Government extension officers, agricultural consultants, chemical supply companies, libraries, media companies, irrigation companies, commercial banks, related trade companies, farmers associations, insurance companies, agricultural educational institutes and miscellaneous others.

We also established a series of extensive demonstration and trial floatbeds and alternative fumigant beds at the Research Station and then at relevant stages in seedling growth we organized field days at TRB to demonstrate alternative chemical application equipment and float seedbed technology. We had hoped to do the same using the new steam boilers purchased by the flower industry as the chosen alternative in their subsection but at the time of writing these boilers have still not reached Zimbabwe. A separate training and implementation programme for flower growers is about to commence here again under UNIDO sponsorship. The TRB also held a series

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of 14 annual "Circus" meetings where specialized scientific personnel from the Research Station visited each tobacco district and gave a full multimedia presentation on various subjects, one of which was the reasons for the phase-out, the current state of play with alternatives and how we foresee the local phase-out and implementation schedule.

Thereafter, we set up a group of demonstration growers, in each district, including several agricultural training centres; and after training them in all aspects of the new alternative floatbed techniques at an intensive Workshop held at the TRB, they set up small practical demonstrations on their farms which could be monitored by all other growers in their area. At each of these venues, field days or discussion groups were organized specifically to show and discuss in a clear, practical but informal forum the progress with the new systems. These gatherings were also obviously used to highlight the reasons for adopting these new approaches and to caution all stakeholders of the imminent time scale for the phase-out.

## Impact

Considerable numbers of users were reached in one way or another but we have always been of the opinion that the transfer of information required is an ongoing relatively long term process and cannot be achieved in 3 or 6 months. Fortunately we found that our efforts resulted in an exponential increase in knowledge at end-user level in that as each new grower or discussion group was reached they, in turn, reached others in their area, often initially through a casual social contact, and this almost invariably led to added interest, further requests for field days, demonstrations or presentations at the TRB or on farms in their districts.

We found that the most effective weapon in our armory was the setting up of these "on-farm" demonstration alternatives, in our case tobacco floatbeds using polystyrene floating trays. These demonstration sites, were set up by growers who showed early interest in the new alternatives and usually made the initial approach to us asking to be allowed to try the new systems. In most cases the growers were either influential or leaders in their districts and this ensured that the demonstrations were well executed and that substantial sharing of information took place, both informally amongst themselves and in more formal field days involving presentations by TRB personnel.

## Lessons Learned

Our particular situation seemed to support the fact that most written information was either glossed over or even forgotten after a while. This emerged from our final survey responses where, although every single registered tobacco or flower grower was sent a brochure or flyer specifically targeting their usage methyl bromide, a worrying number had no recollection of ever having received such a publication or of having read anything about the phase-out. Even national radio programmes, which obviously can only reach the moderate percentage of growers who happen to be tuned in on the right day, were heard and often forgotten. The articles in specialized tobacco or flower grower magazines were more effective and seemed to reach an encouraging number of all stakeholders, not just end-users. In our experience however the on-farm practical discussion groups, field days or well-publicized official field days held at the TRB were very well received with much more of the information being retained. Most growers responding to our final survey insisted that the more practical, hands-on demonstrations were the way to educate the methyl bromide users.

A very real threat to acceptance of the new systems was always the financial restraints and many were not prepared to enter into discussions about the new systems until we could assure them that despite initial high start-up costs, the long term costs over 3 or 4 years would drop considerably and should prove more cost-effective and produce a better product in the long run. They were all very interested in the prospects of initial financial assistance coming from an implementing body like UNIDO and many implied that they would not change until they were forced to unless they were able to receive financial assistance and in-depth training and back-up during the phase-out stage.

The process of education continues as does the fine-tuning of the various systems but we are confident that with the MBCP as the foundation of our education or communication programme we will achieve the goals set out by the Montreal Protocol.

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## Annex 3

INDIVIDUAL NGO EVALUATIONS AND RECOMMENDATIONS  
FOR AN IMPROVED MBCPNGO Communication Project: Country Evaluation Table  
Contributing Countries to Completion of Table: Global Village, CAMEROON

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup>	Suggestions for overcoming barriers
Conducting of surveys (first and second)	2	End users sceptical about the real objective of the survey and at times it was difficult to get confirmation on the identities of stakeholders.	Much patience and skill survey required in carrying out the surveys. Organised groups would be best contacted as a tool for contact with end users.
National workshop(s)	2	Source materials for workshops were only available in English. People generally into all UN languages. There unaware of the efficacy of alternatives and there were few technical persons available locally to present on this topic. The NGO also felt that times they did not have the contacts and capacity to invite key persons to the workshops.	Source materials in the future should be translated into all UN needs to be better cooperation with the NOU to facilitate a better invitation process for future activities, and if possible, external experts or consultants should provide technical expertise at workshops.
Farmer Outreach/ demonstrations	(No grade given)	A large budget is needed to coordinate the events associated with outreaching demonstration activities etc (media and press. campaigns). Resource materials are highly technical and not easily understood by farmers.	Perhaps some budget from the associated demonstration projects might be diverted to assist in the outreaching effort. There is a need for more 'farmer-friendly' resource materials. Perhaps the NGO can be afforded more funding for awareness associated with the outreach activity.
Public awareness activities, generation of materials	2	Non-availability of materials in local languages for local workshops. A general lack of interest in the media in covering MBCP issues	More funding needs to be available for producing materials in local languages. There is need for a key media person or out fit that might assist in sage getting the MB mes out to the public. UNEP might also provide the NGO with letters of support to the media to assist in their opening their minds to giving , more coverage to MB issues.

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup>	Suggestions for overcoming barriers
Enhanced Capacity of participating organizations	3	Lack of specific skills and competence on handling MB alternatives. NGO experienced communication difficulties in transmitting information electronically.	Technical training on information management might be provided by UNEP, and more up-to-date information should be made available which in turn might come about through the NGO's improved connectivity to the internet.

<sup>1</sup> 1 = highly successful, 2 = successful, 3 = moderately successful, 4 = not successful. Each working group summary table should list the rating of each component country.

<sup>2</sup> In summarizing, should the rapporteur find that there are common difficulties encountered by members of the group, he might briefly list the difficulty (eg. limited time for conducting survey), and then place in brackets those countries of the group who encountered the particular difficulty encountered.

**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: CODEFF, CHILE**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barriers	Suggestions for overcoming
Conducting of (first and second)	3	First it took considerable time translating the questionnaire into farmers. The questionnaire was too long and somewhat complex, such that some farmers needed help to complete the survey. Also the Chilean NGO did not find that he could use phone or fax to gather responses for the questionnaire. There is therefore a need to better reach farmers.	Fewer questions on the surveys the questionnaire, and/or give the NGO the opportunity to draw up their own questionnaires, following guidelines on the type of information needed from the stakeholders.
National shops workshop(s)	1	Farmers have limited free time, but it was very difficult to concentrate all the workshop activities into 1 day seminars. Also some had to travel more than two hours to the workshop venue. This in effect limited participation.	Tailor-making workshops for different types of participants (eg. peasant farmers vs. farming enterprise), and located in the different farming regions for increased participation.
Farmer Outreach/ demonstrations	2- Demonstrations were incorporated as part of a researcher's presentation during a workshop.	(None recorded)	(None recorded)
Public awareness activities, generation of materials	2	Found there was a distribution problem in getting brochures and written material to the farmers in the field.	A video would be far more effective, as the visual media has far more impact on the less educated farmer. The brochure could then be used to support the video message.
Enhanced Capacity of participating organizations	1- Good cooperation with the NOU and researchers. As a whole the MBCP was effective in bringing together the NOU, researchers, NGOs, media and users together, particularly through workshop activities.	This NGO felt that their capacity was inadequate to reach the ideal number of farmers. In addition they had difficulty finding venues suitable to ensuring maximum participation by the farming community which is somewhat scattered.	He felt that simplification of the survey and closer cooperation with the farming community would build the necessary relationship with the main MB users. Also, to effect phase out at the policy level, closer communication with politicians and members of Parliament would be ideal, and reinforce, the efforts of the NGO.

<sup>1</sup> 1 = highly successful, 2 = moderately successful, 3 = moderately successful, 4 = not successful. Each working group summary table should list the rating of each component country.

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**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: IRET, COSTA RICA**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barriers	Suggestions for overcoming
Conducting of surveys (first and second)	3	The survey is too long and complex, making an intrusion into some information that is classified for Costa Rican farming enterprises.	Make questions more specific. There is a need to recognize that some employees cannot answer certain questions as their responses include information that is company classified. Such questions are to be avoided.
National workshop(s)	2	General Managers, owners, or key decision makers with in companies often send technicians to workshops, who are unable to effect or commit to changes in the or commit to changes in the company's operations.	There is a need to improve relations with key individuals highly placed in farming enterprises to guarantee their participation in workshops.
Farmer Outreach/ demonstrations	2	Again, technicians participated rather than key decision makers in companies. participation in workshops	There is a need to improve relations with key individuals highly placed in farming enterprises to guarantee their
Public awareness activities, generation of materials	1	Radio and television air time is exceedingly expensive, such that the awareness video created under the MBCP could only be aired twice.	Improved communication with media houses, such that they might be involved in the making of the videos as well. This should also increase the air time received.
Enhanced Capacity of participating organizations	1	Although the NGO gained capacity in carrying out the MBCP activities there was significant cost involved. The field cost of carrying out the survey was high in that honoraries and DSAs had to be paid. The length of the survey further increased the time needed, and the costs involved.	Simplify the survey.

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<sup>2</sup> In summarizing, should the rapporteur find that there are common difficulties encountered by members of the group, he might briefly list the difficulty (eg. limited time for conducting survey), and then place in brackets those countries of the group who encountered the particular difficulty encountered.

**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: Enda-Ethiopia, ETHIOPIA**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of (first and second)	2 Carried out with the assistant of a consultant , who was a professor at a national university. This professor used graduate students to go into the fieldresulting in a high level of success.	In some cases, users were unwilling to give more than vague responses to the questionnaire.	A start-up workshop to inform the stakeholders would enhance survey response, as would securing the cooperation of the NOU, Ministry of Agriculture and Environmental Protection Agency.
National workshop(s)	2 High success as got good quality speakers and information delivery, and the location of the workshops was optimal.	None recorded.	Workshops could be augmented with the incorporation of field visits to demonstration sites into the agenda.
Farmer Outreach/ demonstrations	2 This activity was carried out satisfactorily, although it was a first time effort to raise general awareness amongst officials and users to initiate efforts to change attitudes.	Demonstrations are expensive to set up and require stakeholder commitments and input. Demonstrations in Ethiopia are for the most part far from Addis Ababa, making it very difficult and expensive to orchestrate field visits.	The NGO suggests financial support (with the aid of UNEP UNIDO et. al.) to cover the costs involved in outreach in a large country like Ethiopia.
Public awareness activities, generation of materials	2 The NGO had a positive experience with the materials supplied by UNEP, such that the stakeholders got good information out of both the written and video materials distributed.	It was expensive carrying out the production and dissemination of awareness materials. Materials were also adapted and altered according to information needs identified by participants in the early workshops.	Awareness materials might be distributed well ahead of time for review by stakeholders, so that they can send in their information needs. This will ensure that materials can be reworked and made more understandable and ready for distribution in subsequent workshops.
Enhanced Capacity of participating organizations	2	NGO felt that investment projects or demonstration activity is needed to build further capacity of stakeholders in stakeholders in Ethiopia.	Enda-Ethiopia requests the cooperation of UNEP and UNIDO in carrying out further awareness and demonstration work.

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<sup>2</sup> In summarizing, should the rapporteur find that there are common difficulties encountered by members of the group, he might briefly list the difficulty (eg. limited time for conducting survey), and then place in brackets those countries of the group who encountered the particular difficulty encountered.

**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: Consumer Information Network, KENYA**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first and second)	2	The NGO encountered a fear and mistrust from users who felt that admitting their use of MB would result in their prosecution. It was difficult and time-consuming to reach all the farmers, and where larger enterprises or groups were approached, they found management was evasive in their response to the survey. The NGO had to spend considerable time making call backs to gather information.	More time and funds to cover the travel and communication involved in completing the survey is needed. Also there needs to be some sort of awareness campaign to encourage participation in the survey.
National workshop(s)	2	Not everyone invited attended (70% of invitees), and it was difficult to find the optimum timing and location to conduct workshops. The lack of financial incentive for participants impacted on attendance and participation.	There is a need for more workshops in the different regions of Kenya to get better impact by workshop activity. Also their needs to be better publicizing of workshops. Financial incentives (eg. per diem) would likely improve participation.
Farmer Outreach/ demonstrations	2	It was difficult to get cooperation of farms with demonstration activities to coordinate with the NGO, and support MBCP activities. Also it was difficult to find demonstration plots sited so that it was easily accessible to a wide cross-section of users.	There needs to be more awareness about the MBCP in general to encourage participation by stakeholders. In addition, more time is needed, as well as increased funding (for transportation and communication) to organize demonstration/outreach activities.
Public awareness activities, generation of materials	2	The materials provided by UNEP were sometimes too technical for the use by the average user. There were also language difficulties. It was very costly producing the awareness materials, and there was limited access to information upon which to base generation of materials.	There is a need for a more varied and creative educational and awareness approaches to suit the Kenyan situation. Materials should be simplified, and there should be funds made available so they can be translated into local languages. Portable demonstration materials (eg. Tobacco tray technology) and awareness equipment, as well as enhanced networking and information exchange with other NGOs and key organizations would improve the local awareness efforts.

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Enhanced Capacity of participating organizations	2	Difficulties listed were: Limited access to technical material/information and demonstration equipment; There was limited transport and communication access in the course of the MBCP.	The NGO is in need of enhanced knowledge and training, and portable demonstration equipment wherever possible. More funding is needed, as well as vehicles, computers internet access internet access and other communication gadgets.

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<sup>2</sup>In summarizing, should the rapporteur find that there are common difficulties encountered by members of the group, he might briefly list the difficulty (eg, limited time for conducting survey), and then place in brackets those countries of the group who encountered the particular difficulty encountered.

**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: CURE, MALAWI**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first and second)	3 (answers relate to the first survey carried out a the time of writing)	There are difficulties in getting the trust of key persons to respond to the survey. Also the time to do the surveys is too short, particularly as the transportation and telecommunications systems required is inadequate in Malawi.	More time is required for the surveys and pre-informing stakeholders might ensure a better response from users. Timely funding of this funding was emphasized.
National workshop(s)	2	Funds are inadequate for workshops, since resource persons, and other persons involved in running the workshop expect per diems. Because of this the NGO has been forced to reduce the length of workshops. Also there is a lack of resource persons for the workshops.	There is a need for increased funding for workshops and the like, and the NGO needs assistance in identifying experts to assist. Closer coordination with the NOU would facilitate this. In addition, using other agricultural gatherings or workshops to further the cause of the MBCP might help alleviate the difficulties in arranging full length workshops of their own.
Farmer Outreach/ demonstrations	3	Information provided is not user-friendly for farmers. Funds are inadequate for a proper mass media campaign. In addition the NGO has had difficulty gaining access to demonstration site results.	UNEP should assist the NGO by repackaging information into user friendly formats. Further a Network should be formed to share information from demonstrations, and to assist NGOs in access to demonstrations sites. The NGO also felt that the NGOs themselves should receive training in demonstrations.

Public awareness activities, generation of materials	2	In their current format, the UNEP awareness materials must be adapted and repackaged so that they are understandable by the average farmer/user. However, there are limited funds available to do this under the MBCP.	UNEP should provide simplified up-to-date materials to be referenced for use locally. Newsletters would likely be the best way to distribute information, but these newsletters would be strengthened with expert contribution and the use of editorial group
Enhanced Capacity of participating organizations	3	There was enhanced capacity built in terms of skills and competency on the topic of MB phase out and alternatives. Also the NGOs learnt aspects of monitoring and evaluation of projects and activities, and generally improved their communication with the NOU and other NGOs. necessary.	Further capacity might be built with training of the NGO in design of public awareness materials, information technology. Also require a constant flow of up-to-date information on MB issues. In general a need for improved connectivity is

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<sup>2</sup>In summarizing, should the rapporteur find that there are common difficulties encountered by members of the group, he might briefly list the difficulty (eg. limited time for conducting survey), and then place in brackets those countries of the group who encountered the particular difficulty encountered.

**NGO Communication Project: Country Evaluation Table  
Contributing Countries to Completion of Table: CARED, NIGERIA**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first second)	3	Limited time for conducting the surveys. Poor farmer knowledge of MB issues. General unwillingness of the agro-chemical dealers and distributors to en certain questions on methyl bromide.	There is a need for greater simplification of the survey questionnaire, as well as a larger allocation of time and funds for carrying out relevant activities. Generally further effort needs to be made to educate stakeholders.
National workshop(s)	(not conducted at the time of the 2nd NGO MBCP Meeting)	Difficult to reach and engage decision-makers.	
Farmer Outreach/ demonstrations	(not conducted at the time of the 2nd NGO MBCP Meeting)		
Public awareness activities, generation of materials	(not conducted at the time of the 2nd NGO MBCP Meeting)		
Enhanced Capacity of participating organizations	(not conducted at the time of the 2nd NGO MBCP Meeting)		

<sup>1</sup> 1 = highly successful, 2= moderately successful; 3= not successful; 4= not successful. Each working group summary table should list the rating of each component country.  
<sup>2</sup> In summarizing, should the rapporteur find that there are common difficulties encountered by members of the group, he might briefly list the difficulty (eg. limited time for conducting survey), and then place in brackets those countries of the group who encountered the particular difficulty encountered.

**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: Pesticide Action Network, PHILIPPINES**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first and second)	2 Users responsible for 25% of the total MB imports for 2000 were covered by the initial survey alone.	It was difficult to contact users who were not part of larger organizations or associations.	Coordination with governmental certifying offices for fumigators and other users of MB would improve contact with individual operators or users.
National workshop(s)	1 This NGO was extremely successful in increasing awareness through workshops, and received a lot of feedback from the users.	Difficulties encountered revolved around the lack of technical expertise available to give technical input on specific alternatives during workshops (particularly for structural fumigation. The NGO also explored alternatives for QPS). In addition, there was a reshuffling within the NOU, which resulted in a disruption of the relationship between NGO and NOU.	The NGO suggests increased financial support to bring experts in from outside of the Philippines to speak to technical issues (eg. Danish experts to speak on fumigation of storage spaces).
Farmer Outreach/ demonstrations	No demonstrations carried out under the MBCP in the Philippines, since MB is only used for fumigations (structural/ storage and QPS) by government certified pest applicators.		
Public awareness activities, generation of materials	4 - public awareness activities. 1 - generation of materials (88% of those surveyed in the second survey had received the awareness brochures etc. generated by PAN-Philippines, and had rated them highly for their content and usefulness.	Public awareness activities with the Press and electronic media were not very successful. Only 6% of those surveyed in the second survey had seen the Press releases seen the Press releases and radio interviews generated by the NGO. Radio hosts were not willing to take up the issue of MB phase out and alternatives. In addition TV coverage was prohibitively expensive.	The NOU and licensing body for MB use (Fertilizer and Pesticide Authority (FPA) need to lend assistance in becoming more involved in publicizing the MBCP to get it better coverage by the radio and media in general.

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Enhanced Capacity of participating organizations	3 Whilst the NGO could provide some information on MB phase out and alternatives, they needed more technical expertise to speak on specific alternatives (eg. specific alternatives (eg. Structural fumigation and QPS use).	Although users are willing to switch to alternatives, they lack information on where to get them and access to training. Also because Australia and New Zealand insist on MB use in QPS treatments, fumigators tend to stick to methyl bromide as a general fumigant.	The NGO would like to see a demonstration project set up in the Philippines on structural fumigation use. They are also interested in in-kind assistance and information on alternatives for QPS uses. The NGO felt that the pressure by developed countries to continue using MB for QPS encouraged MB in general even outside of QPS. There was also a call for increased international pressure to halt MB production and expand the production of alternatives

Other needs listed by PAN-Philippines representative:

- Follow-up of stakeholders to develop a definite action plan for the implementation of MB phase out.
- More workshops on more specific alternatives, particularly structural fumigation and QPS alternatives.
- More research on the volume of MB used in the export of goods to countries that require MB QPS fumigations for imports.

## NGO Communication Project: Country Evaluation Table

### Contributing Countries to Completion of Table: PAN, SENEGAL

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first and second)	3	Reluctance of current and potential users of MB to participate in the survey.	Letters of support should be provided by UNEP for the NGO to show to stakeholders to back up their credibility and encourage participation in the survey
National workshop(s)	2	Resource materials largely available in English.	Resource materials need to be provided in French.
Farmer Outreach/ demonstrations	(not conducted at the time of the 2nd NGO MBCP Meeting)		
Public awareness activities, generation of materials	(not conducted at the time of the 2nd NGO MBCP Meeting)		
Enhanced Capacity of participating organizations	(not conducted at the time of the 2nd NGO MBCP Meeting)		

**NGO Communication Project: Country Evaluation Table**  
**Contributing Countries to Completion of Table: Rice Exporters Association, THAILAND**

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first and second)	2 Made successful with the cooperation of the Department of Industrial Works and department of Agriculture who have the names of all users and importers. out the survey activity.	Small users were not reached by the survey. The survey was found to be too complicated, and some of the information requested was difficult to supply. Also there was timing and funding limitation in carrying	This NGO feels it would be better for UNEP to furnish the criteria for a survey, and permit local development of questionnaires, sensitive to the national context.
National workshop(s)	2	The key decision makers were not properly reached by workshop activities. Key stakeholders and decision makers showed a general lack of commitment to the process of phase out.	There is a need for workshops specifically targeted to different regions, sectors and levels in the decision -making process.
Farmer Outreach /demonstrations	2	It was difficult to convince users on the efficacy of alternatives demonstrated.	There needs to be more media coverage on alternatives and successes.
Public awareness activities, generation of materials	2	There was a difficulty of language, since materials had to be put into Thai. Reaching key target individuals and firms was difficult. Again there was a lack of interest in MB issues.	There is a need to develop newsletters for the different usage sectors. Media should be encouraged to support NGO efforts in publicizing the MB issues
Enhanced Capacity of participating organizations	2	Lack of networking amongst NGOs, experts and key organizations involved with MB phase out.	There is a need for clear criteria and gui delines for such a Network.

## NGO Communication Project: Country Evaluation Table

### Contributing Countries to Completion of Table: ECAZ, ZAMBIA

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Conducting of surveys (first and second)	3 Received a 40% response to their survey activity	Time was too limited for surveying, such that the NGO could not make enough field visits to farmer meetings to get a better response to the survey. Questionnaires are not the best way to gather information, and the information, and the survey form was not in user-friendly language.	Both financial resources and time given for the survey need to be increased. Also the survey need to be simplified into user-friendly language.
National workshop(s)	2 Useful and effective	Again there was a time constraint in carrying out the workshop activity and there was a lot of logistical work involved with too little resources.	More financial assistance needs to be allocated to this activity. Also there is a need for more practical examples of alternatives to be show cased during workshops.
Farmer Outreach /demonstrations	2	Limited time, limited field visits and limited funds for this activity were listed. In addition they NGO experienced a late arrival of materials for UNEP for use in the outreach events.	The NGO would like to see increased support and more demonstration field visits etc. Also UNEP has been requested to send materials early to ensure timely arrival.
Public awareness activities, generation of materials	2	Materials were not in user friendly language and it was difficult to get journalists to give coverage as they wanted payment from the NGO to do so. The making of a video is also a costly exercise.	The NGO would like to see a separate budget for video production and the provision of more user friendly materials.
Enhanced Capacity of participating organizations	3	NGOS, distributors, users, research institutions etc, gained a different understanding & capacity from the MBCP.	There should be separate specific activities to educate the different stakeholders involved in MB use.

## NGO Communication Project: Country Evaluation Table

### Contributing Countries to Completion of Table: Tobacco Research Board, ZIMBABWE

Activity barrier	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup>	Suggestions for overcoming
Conducting of surveys (first and second)	3- Very limited time in which to carry out the survey, so that the response was not encouraging (only about 4%).	Easy to get forms to users by mail or e-mail, but difficult to collect completed forms. There were 1500 users, and so visiting in person was very time consuming, due to the sheer numbers of persons and the long distances involved.	Use a short list of questions to be completed during the first and second workshops, when users are a " captive audience". This is crucial since users, who are often farmers, are not given to any form of clerical exercises.
National workshop(s)	2- Very useful and effective	Time and effort setting up workshops around the country was considerable. It was difficult to establish relevant venues.	The TRB routinely organizes meetings, field days and seminars. The TRB representative saw no way to go around the logistics involved in setting up a workshop for users in Zimbabwe.
Farmer Outreach /demonstrations	1- Most successful since demonstration sessions involved a limited number of growers each time. Demonstrations generally took place among familiar communities of users, so that the process and transfer of information was easy. The practical demonstrations were visual and 'hands-on', so that the users got very real experience in working with the alternatives technologies (notable the tobacco seed tray technologies).	None identified as several Zimbabwean growers using alternatives were also willing to carry out the preparatory work and act as field day venues.	The TRB offers their technique as a possible way of enhancing demonstrations and increasing impact. They selected 55 volunteer growers (pilots) in each of the districts, such that alternative systems were set up on their farms. Local discussion groups and field days were then held periodically at such venues, calling in as many neighbouring growers as possible for hands-on training and information sharing.

Activity	Level of success of activity <sup>1</sup>	Difficulties encountered <sup>2</sup> barrier	Suggestions for overcoming
Public awareness activities, generation of materials	3- The general public were not particularly interested in methyl bromide issues, as they were unaware of the chemical. TRB did not feel that their public awareness materials made much of an impact.	Considerable time and money was spent producing quality brochures and videos. With respect to the written information, the TRB representative did not feel that they on their own made any real impact, as often information was read once and then forgotten. He felt, however, that there was more potential in using video as an outreach tool, as the visual medium was far more impactful; but the video was too expensive.	More money might be provided to assist in the production of videos to reach the local population.
Enhanced Capacity of participating organizations	3 – No explanatory response given. farmers are dependent on the capacity depend totally on the Exporter Flower Growers Association of Zimbabwe	The MBCP brought the NOU UNIDO, UNDP and various local agricultural organizations together. But in general, of the relevant farming associations to guide them on specific workable alternatives (eg. cut flower growers (EFGAZ) for direction on phase out) Therefore capacity in these types of organizations must be strong.	The public blessing of the NGO by UNEP DTIE is necessary to give more credibility and the eyes of local government agencies, stakeholders and other prime movers in the methyl bromide phase out in Zimbabwe.

## ABOUT THE UNEP DTIE OZONACTION PROGRAMME

Under the Montreal Protocol on Substances that Deplete the Ozone Layer, countries worldwide are taking specific, time-targeted actions to reduce and eliminate the production and consumption of man-made chemicals that destroy the stratospheric ozone layer, Earth's protective shield. Over 180 governments have joined this multilateral environmental agreement and are taking actions to phase out ozone depleting substances (ODS), which include CFCs, halons, methyl bromide, carbon tetrachloride, methyl chloroform, and HCFCs.

The Parties to this agreement established a Multilateral Fund that provides developing countries with the technical and financial assistance needed to comply with the Protocol. UNEP, UNDP, UNIDO and the World Bank are the Fund's Implementing Agencies.

The objective of UNEP's OzonAction Programme is to assist developing countries and Countries with Economies in Transition to achieve compliance with the control measures of the Montreal Protocol. Since 1991, the Programme has met this goal by strengthening National Ozone Units (NOUS) and facilitating regional and international responses to the ozone depletion challenge by providing the following need-based services:

- > **Information Clearinghouse**, which provides need-based information services that help decision-makers take informed decisions on policies and technologies required to phase out ODS. The clearinghouse has provided over 100 publications and other information aids, including guidelines, videos, CD-ROMs, public awareness materials, a newsletter, sector-specific publications, and a web site.
- > **National and Regional Training**, which builds the capacity of policy-makers, customs officers and local industry to implement national ODS phase-out activities. UNEP promotes the involvement of local experts from industry and academia in training workshops and brings together local stakeholders with experts from the global ozone protection community. To date, OzonAction has conducted 70 training programmes for customs officers and 62 for refrigeration technicians.
- > **Regional Networking of ODS Officers**, which provides a regular forum for those officers to exchange experiences, develop skills, and share ideas with counterparts from both developing and developed countries. Networking helps ensure that NOUs have the information, skills and contacts required to successfully manage their national ODS phase-out strategies. UNEP currently operates 8 regional/sub-regional Networks involving 115 developing and 9 developed countries.
- > **Refrigerant Management Plans**, which provide countries with integrated, cost-effective strategies for ODS phase out in the refrigeration and air conditioning sectors. RMPs assist developing with overcoming the numerous obstacles to phase out ODS in the critical refrigeration sector. UNEP currently provides specific expertise, information and guidance to support the development of RMPs in 67 countries.
- > **Country Programmes and Institutional Strengthening**, which support the development and implementation of national ODS phase-out strategies, especially for low-volume ODS-consuming countries. The Programme has assisted about 100 countries to develop their CPs and 96 countries to implement their IS projects.

In 2002, UNEP restructured OzonAction to better respond to the evolving needs of developing countries during the compliance period. Its overall vision and work strategy was reoriented into the Compliance Assistance Programme (CAP). A major feature of the CAP strategy is to move away from a disparate project management approach towards integrated and direct implementation of the programme using a team of professionals with appropriate skills and expertise. UNEP has now regionalised the delivery of the programme and services by placing its Regional Offices at the forefront to assist the countries in the region.

Primarily funded by the Multilateral Fund, the OzonAction Programme also receives support from the Global Environment Facility, the Government of Sweden, the Government of Finland, and other bilateral sources.

**For more information**

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# OzonAction & NGOs

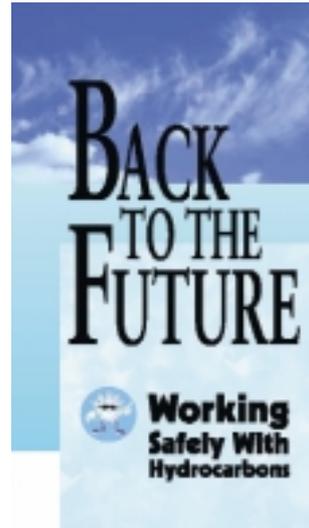
## Various projects implemented by NGOs

Non-Fluorocarbon Alternatives  
Refrigeration Special Supplement No.2



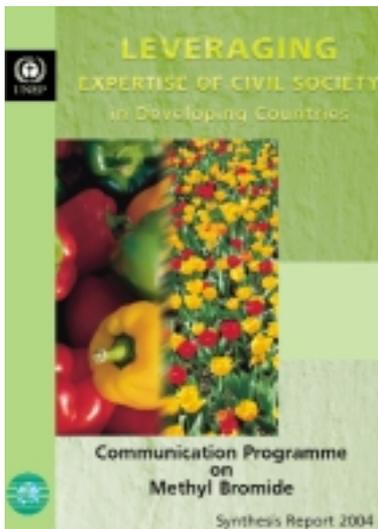
By Friends of the Earth (FOA)

Back to the Future



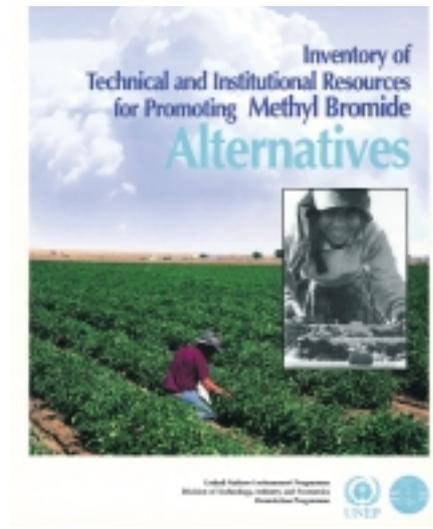
Greenpeace

Communication Programme  
on Methyl Bromide



13 NGOs from Developing Countries

Inventory of Technical and Institutional Resources  
for Promoting Methyl Bromide Alternatives



Pesticide Action Network North America  
(PANNA)

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