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**A CONFERENCE ON CORPORATE ENVIRONMENTAL POLICIES AND  
PROGRAMS**

**"NEW STRATEGIES FOR INDUSTRIAL ENVIRONMENTAL  
SUSTAINABILITY": A WASTE MINIMIZATION WORKSHOP FOR  
INDUSTRY AND GOVERNMENT**

**Cebu City, Philippines, October 4-7, 1993**

**CONFERENCE PREPARATION: "RETAIL AND THE ENVIRONMENT"**

**Manila, Philippines, October 8, 1993**

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**A Project of:  
Philippine Business for the Environment  
Cebu Chamber of Commerce and Industry  
Federation of Asian Retailers Associations  
The World Environment Center**

**With Sponsorship by:  
The U.S. Agency for International Development (USAID) through WEC's  
Cooperative Agreement in Support of the U.S.-Asia Environmental Partnership**



**THE WORLD ENVIRONMENT CENTER**

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The U.S.- Asia Environmental Partnership (US-AEP) links U.S. environmental businesses to opportunities in Asia. The program strengthens environmental protection and promotes sustainable development in Asia and the Pacific by mobilizing U.S. environmental technology, expertise and financial resources. An initiative promoted by core funding from the United States Agency for International Development (USAID), the US-AEP program coordinates the participation of 25 U.S. government departments and agencies, numerous businesses, and non-governmental organizations to work with 34 nations and territories in Asia and the Pacific.

The World Environment Center (WEC), which has an established reputation in Asia and worldwide for providing objective access to expertise, information, and technology, is pleased to support the US-AEP as a catalyst, responding to opportunities to strengthen linkages between both the U.S. and Asia/Pacific partners. Specifically, under WEC's Cooperative Agreement with USAID in support of the US-AEP, WEC has begun implementing short-term environmental business exchanges (EBEs) through a series of individually tailored technical visits to Asia and the Pacific by volunteers from U.S. industry and government, and factory/industry visits and workshops in the United States designed around specific environmental topics for Asian and Pacific Island professionals.

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## EXECUTIVE SUMMARY

From October 4 - 8, 1993, the author conducted a series of assignments in the Philippines to promote Waste Minimization (WM). The assignments were supported by Philippine Business for the Environment (PBE), the World Environment Center (WEC) through a Cooperative Agreement in support of the U.S.- Asia Environmental Partnership (US-AEP), the Cebu Chamber of Commerce and Industry (CCCI), and the Federation of Asian Retailers Associations.

The first assignment was to make two presentations and assist in facilitating PBE's second conference: *Corporate Environmental Policies and Programs*, held October 4-5 in Cebu City, Cebu, Philippines. The presentations were on "The Greening of the Corporation", and "Elements of Corporate Environmental Policy." The author also helped facilitate discussion groups. The conference was an apparent success with good attendance, media coverage and audience participation, and a strong commitments to follow up on recommendations made.

The second assignment was to give two full-day workshops on WM to a government group and an industry group. The CCCI sponsored and organized these events. About 25 government people and 60 industry people attended. Participants were given an overview of environmental management strategy for industry, from both government and business perspectives, and were introduced to WM concepts and case studies. The workshops were very participatory and included discussion sessions on environmental concerns, priorities and action steps. The workshops appeared to be successful and feedback was very good.

The third assignment was to speak on "Retail and the Environment" at the 6th Asian Retailers Conference and Exhibition, sponsored by the Federation of Asian Retailers Associations. The presentation focused on WM in retail facility operations, environmental marketing, and resources available. Strong interest in environmental cooperation was indicated by retail industry leaders after the presentation.

### **Major conclusions and recommendations to WEC, USAID, and EMB from these assignments are:**

- Continue supporting PBE's conferences. Study PBE's administrative capabilities and facilities to determine if they can operate and expand a business environmental resource center.
- Study the Cebu CCI and its Environmental Quality Council as a model for other Chambers of Commerce around the Philippines, and actively promote the model.
- Develop major WM promotional strategies for the Philippines that distinguish Metro Manila from the rest of the country. Regional efforts should be increasingly emphasized to maximize return on effort.
- Develop a strategy to work with retail industries in promoting environmentally sustainable products, including in particular water and energy conserving devices, non-toxic alternatives, and reusable shopping bags. Form an advisory council of retail leaders.

## INTRODUCTION

### Previous Philippine Assignments

This assignment was the latest in a continuing series of Waste Minimization (WM) related events supported and organized by USAID/Philippines, the USAID Asia Bureau, the US-AEP, the Department of Environment and Natural Resources - Environmental Management Bureau (DENR-EMB) and the World Environment Center (WEC). This series began in July 1992, with a visit from a U.S. toxic reduction expert from the Massachusetts Office of Technical Assistance (OTA) to the Philippines to conduct an institutional assessment of WM capabilities in the Philippines. WEC managed and supported these assignments through a Cooperative Agreement with the Asia Bureau, a grant from USAID/Philippines and through a Cooperative Agreement with the US-AEP.

Following the initial capabilities assessment, WEC under a grant from USAID/Philippines, and in coordination with DENR-EMB, supported and organized three workshops on hazardous waste management. The final workshop in the series, *Waste Minimization: An Emerging Corporate Strategy*, was held in January 1993. Mr. Hamner was invited by WEC to participate as Course Instructor on a volunteer basis. Along with another instructor, he taught WM concepts to government and industry groups using active participation methods. One of the participants in the workshop was Grace Favila, the Executive Director of the NGO, Philippine Business for the Environment (PBE). At the end of the workshop, Ms. Favila asked if Mr. Hamner would consider participating in PBE's upcoming March conference, *Corporate Environmental Policies and Programs*, supported by USAID/Philippines.

WEC, through the US-AEP, in cooperation with PBE, supported and managed the author's March 1993 visit. The author spoke on "Elements of a Corporate Environmental Policy" at PBE's two-day conference, which was attended by over 120 business executives and government leaders. He also facilitated conference discussion groups. The other WEC-arranged and US-AEP supported plenary speaker was David Chittick, Vice President for Environment, AT&T. Following the PBE conference, the author led two one-day seminars on WM for DENR/EMB. The first seminar was for 50 DENR inspectors for Metro Manila, and the second seminar was for an industry group composed of companies threatened with environmental restrictions due to pollution of the Pasig River. On the final day of the assignment, the author conducted a waste minimization assessment of a large Manila department store, and wrote a report for the store owners.

PBE and USAID/Philippines felt that the March PBE conference was a success, and PBE invited Mr. Hamner to their second semi-annual conference in Cebu City, to be held in October 1993. In addition to participating in the October conference, PBE, DENR and WEC arranged for the Cebu Chamber of Commerce and Industry (CCCI) to sponsor two one-day seminars on WM following the PBE conference. The first seminar was for 25 government officials and the Cebu Environmental Quality Council. The second seminar was for about 60 technical managers from local industrial facilities, including many Pollution Control Officers.

On the fifth day of the assignment, the author spoke at the Asian Retailers Conference and Exhibition on Retail and the Environment, and promoted WM and environmental marketing to regional retail leaders. This opportunity came about directly from the Philippine Retailers Association, who had received Mr. Hamner's name from a participant in the first PBE conference in March.

Following this latest assignment, the author was approached by several parties who expressed interest in having Mr. Hamner conduct further training programs. PBE also requested his assistance in another conference in 1994.

### **Assignment Overview**

From October 4-8, 1993, Mr. Burton Hamner, Environmental Planner, Toxics Reduction Section, Washington Department of Ecology, visited Cebu and Manila, Philippines. His assignment was sponsored by the U.S. Agency for International Development (USAID) through a Cooperative Agreement with WEC in support of the US-AEP. The purpose of this mission was to participate in PBE's Conference: *Corporate Environmental Policies and Programs*, conduct two one-day workshops for the Cebu Chamber of Commerce and Industry (CCCI) and speak at the *6th Asian Retailers Convention and Exhibition* on the topic: Retailing and Environmental Protection. This was the author's third WEC mission to the Philippines in 1993.

The specific tasks were as follows:

- |               |  |
|---------------|--|
| Day 1 (10/4): | PBE Conference; speak on <i>The Greening of the Corporation</i> ; facilitate discussion groups.                  |
| Day 2 (10/5): | PBE Conference; speak on <i>Elements of Corporate Environmental Policy</i> ; facilitate discussion groups.       |
| Day 3 (10/6): | CCCI Workshop; New Strategies for Industrial Environmental Sustainability (government audience).                 |
| Day 4 (10/7): | CCCI Workshop: Waste Minimization: New Strategy for Industrial Environmental Sustainability (industry audience). |
| Day 5 (10/8): | Asian Retailers Conference; speak on Retailing and the Environment (Manila).                                     |

## FINDINGS

### PBE Conference

The non-profit industry-sponsored group, Philippine Business for the Environment (PBE), held its second conference of 1993 on October 4 and 5 in Cebu City, Visayas, Philippines. The conference was held in the Cebu Plaza Hotel. The target audience was industry executives, local leaders and the press. Major subjects covered included government support for sustainable industry, examples from Philippine business, history and future of "green" business, the PBE Charter, and financial resources available. Smaller discussion groups were held each day; subjects covered included concerns and potential solutions. The agenda is attached. All presentations were recorded. For further details, please contact PBE or WEC.

**Materials Presented.** The author spoke both days of the conference. The first presentation was on *The Greening of the Corporation*, describing how industry got to where they are today with an emphasis on the 1970s and 1980s. The second speech was on *Elements of Corporate Environmental Policy*, with specific items and case studies. Each speech was from about 11:30 a.m. to 12:30 p.m.

**Observations on PBE Conference.** The conference was well attended and met the expectations of about 120 people including walk-ins. It had excellent local press coverage with 10 press passes issued. Conference speakers were shown on local TV each night, and local papers ran coverage with photos on each day of the conference. The speakers were from top corporations and high government levels, as well as from several small businesses. The audience was largely composed of high-level managers from industries, many of whom flew in from other islands. There were also technical staff from local environmental agencies and some academicians. There were very few CEOs or factory owners in attendance, however.

The speeches were generally to the point and received strong audience approval. The discussion groups were productive in identifying key concerns of industry. The identified concerns include: water use, resource depletion, lack of permitted and affordable disposal sites, lack of knowledge about resources, and many others. In the "solutions" discussion groups, a key concern was chosen by each group, and a solution proposed. The solutions depended on the type of concern chosen. Many comments focused on the need for more information sharing and partnerships, with obvious concern that "downstream" effects on other groups such as fishermen were leading to conflict and regulation. For full documentation of the discussion group results, see the PBE conference report.

The overall feel of the conference was that it was successful in meeting goals and expectations. Several speakers provided information on resources available that clearly were of great interest. The case studies were relevant, with only a reasonable amount of corporate "sunshine" talk. There was good participation in Question & Answer sessions. Discussion groups were interesting and good contacts were made between participants. The logistics were handled admirably, with several nice touches. Several industry participants stated that they intended to form local environmental concern groups to pool information. The press coverage was much better than expected.

## **Cebu Workshops**

**Cebu Background.** Cebu City is a city of about 600,000 on the east coast of Cebu. It has been rapidly industrialized and its Manufacturing Export Zone is one of the Philippines' leading industrial centers. The city is bordered on land by steep hills that have been largely deforested. The rivers in the city area have been deeply excavated for construction sand and gravel. These factors have caused the water table to drop several meters. Cebu City gets its water from the ground, and the lowered water table is allowing salt water intrusion into wells. Cebu faces a severe water crisis from salt water intrusion. It also faces potential hazards from the many electroplating and metal finishing companies in the area which discharge their metallic and chemical wastes directly into waterways and onto the ground.

Cebu City has a very active Chamber of Commerce and Industry (CCI). The CCI has established a business assistance service which works on a sliding scale. Common services have been productivity and quality improvement, and export assistance.

Cebu is a sister city of Kassel, Germany. Through this connection, the German Agency for International Cooperation (GAIC) has provided funds to CCI for projects in rational energy use and in metal working pollution control. CCI has also been the host of the Philippine German Project on Industrial Pollution Control. This is a five-year project to develop baseline industrial and natural environmental data for Cebu City, and to design a common treatment facility for industrial metal-working wastes. Goals of the project include institutional strengthening, environmental profiling, a business advisory service within CCI, an environmental testing laboratory at the University of San Carlos outside Cebu City, and education and promotion to the general public.

In 1993, the CCI established an Environmental Quality Council, with 15 leading local citizens, business executives and academicians. Its purpose is to help coordinate environmental issues between agencies and between industry and government.

**Government Workshop.** The workshop on New Strategies for Environmental Sustainability was held on Wednesday October 6 at the Sacred Heart Center in Cebu City. It was organized by the Cebu CCI. About 25 people attended, including members of the Cebu CCI Environmental Quality Council, technical staff of the CCI and the Philippine-German Project, and the DENR. The agenda is attached. The workshop began with a presentation on the history of US environmental regulation of industry. Then participants broke into discussion groups to identify the main environmental concerns for government and industry in Cebu. The concerns were summarized and prioritized by the whole group. They were encouraged to share their concerns with industry. This exercise was considered very helpful by the new members of the Council on Environmental Quality.

In the afternoon, the author gave a presentation on WM. The participants helped provide WM examples that they knew of from Cebu industry. Following the break, the participants were asked to review their concerns and to identify action items that could be initiated or accomplished within one year. Many items were identified, most focusing on increased coordination and knowledge sharing. CCI staff documented the discussions and group recommendations.

The workshop appeared to be successful at increasing coordination and raising common issues among the attendees. Several commented that WM and government/industry partnership to achieve it seemed very possible with existing resources. Workshop organizers had no requests for changes to the workshop scheduled for the next day, which was to follow a very similar agenda.

**Industry Workshop.** The industry workshop on Waste Minimization for Environmental Sustainability was held October 7 in Cebu City. About 60 technical managers from Cebu industries, including many Pollution Control Officers, attended and DENR and Philippine-German Project staff observed. It was also sponsored by CCI. The proceedings were recorded on video.

A report on the workshop from the CCI staff is attached. The workshop began with a presentation on the greening of business, followed by examples. The participants then broke into discussion groups to identify their main environmental concerns. The prioritized results very closely matched the concerns of the government group the previous day; see the attached report. Major issues were water conservation, the need for proper disposal facilities, the need for communication and linkage, and impacts on natural resources. The participants were encouraged to share their concerns with government. In the next exercise the participants were asked as a group to identify the costs of waste. Many items were identified. They received a short presentation on the importance of cost forecasting and cash flow analysis as decision making tools.

At lunch, a video on WM from the US EPA, "Less is More", was shown. It was very well received and requests for copies were made. In the afternoon the basics of WM were presented. Process analysis tools from Total Quality Management were presented. The participants helped identify why waste happens. The WM hierarchy was presented with US examples. Then the participants identified examples of WM from their own operations. Many excellent examples were identified, although most focused on WM rather than toxics reduction. In the last exercise the participants broke into groups to identify three things they could do within a year to promote WM in their own companies and to cooperate with government. Many constructive ideas were presented and several participants announced plans to work with other business people present on projects of mutual interest that were discovered in the discussion groups.

**Observations on Cebu.** The Cebu City establishment appears to be remarkably concerned about environmental issues. The Environmental Quality Council is an admirable enterprise and demonstrates serious commitment. The concern may be due in large part to the serious water shortage situation that threatens the city; they have realized how mismanagement of their local environment now threatens their future. The Chamber of Commerce and Industry appears remarkably well organized on its own merits regarding industry, as it offers its own technical assistance program to industry on a sliding fee scale. They have also successfully obtained foreign environmental assistance from Germany and are tackling the solid waste disposal problem. Compared to Manila, Cebu City seems well organized and a potential model for the other smaller cities of the Philippines.

## **Retail Conference**

The author was asked to participate in the 6th Annual Asian Retailers Conference and Exhibition. The conference targeted retail executives throughout Asia.

**Materials Presented.** The author gave a thirty-minute presentation on Retail and the Environment. Three main concerns were discussed: minimizing wastes from operation of retail facilities, creating an environmental marketing advantage, and resources available to the audience. Examples of U.S. retailers who are "going green" were presented. The author mentioned to the audience that he had been unable to find any water saving devices for sale in Manila, a city with a severe electricity, water and wastewater problem. He pointed out that such devices would greatly interest their customers. He briefly discussed PBE's WM activities, USAID/Philippines' Industrial Environmental Improvement Project (IEMP), WEC WM efforts supported by the US-AEP and USAID/Philippines, and other community groups.

The other speaker for the session was Helena Benitez, Chairman of the Women's College of the Philippines and a very distinguished personality who has worked for UNCED, Maurice Strong and UNEP. Ms. Benitez' prepared speech is in the conference proceedings attached. Her actual remarks were a general call to action and several personal anecdotes about working with international environmental programs and the scale of the environmental sustainability movement.

**Observations on the Retailing Conference.** The session was attended by about 60 people, including several top retail industry executives. Grace Favila of PBE also attended. Before the presentation, at least three different people requested that the author mention disposable plastic shopping bags as a serious retail environmental problem. They pointed out that the bags often end up in creeks, drains and sewers where they create blockages and floods.

After the presentations, an executive of the Philippine Retailers Association stated that environment made good sense and that he would commit the Association to working on environmental issues. There were several questions from the audience, one asking for help in CFC replacement for refrigerants. The author introduced Grace Favila as the Executive Director of PBE and recommended her as a valuable resource for business. She received enthusiastic applause. Several questions were raised by retailers regarding low flow shower heads and faucet fittings, and where to source them. Grace Favila has been provided with the information to route to them.

## CONCLUSIONS AND RECOMMENDATIONS

### Continue Support of PBE Efforts

- PBE's two conferences to date have appeared to be very successful and a good model for support. I was especially impressed by the turnout and interest in Cebu. It may be that the promoters, supporters and speakers carry enough prestige to generate more enthusiasm outside of Manila, where many events compete for attention. I strongly recommend support for more regional PBE conferences. Additional conferences in Manila would be less valuable.
- PBE may be a good choice for an environmental information resource center. This requires very good daily operations management if it is to be worthwhile. Performance of a center should be measured on number of businesses served and, in my opinion, that number should be at least a dozen per week when up and running. Specifically, the daily operations should be assessed and performance indicators identified. Resource center logistics need to be carefully designed so when businesses ask for help they actually get it. Based on the limited experience I have with PBE, I recommend a more detailed evaluation of their operations capabilities and facilities.
- An important strategy is to help focus industry's efforts to organize itself. If there are several industry environmental organizations then promotion efforts could be diluted. USAID and other foreign aid programs work with a wide variety of industry groups. They should be encouraged to become associates of PBE and voice their concerns by participating in PBE activities. For example, the Philippine Retailers Association may now be talking to PBE as a result of my presentation. Environmental concerns can be found in every single industry. USAID should make a point of promoting PBE throughout its programs to generate awareness.

### Use Cebu Chamber of Commerce and Industry as Model for Local Action

- The Cebu CCI appears to be a good model that can be relatively well understood and documented. They are innovative compared to other areas of the country, according to several Filipino and American sources. Other regional CCI's can look to the Cebu CCI as an example. The Cebu CCI should be studied and their key organizational skills and strategies identified. Several other smaller cities should be identified that could be compared to Cebu City and serve as pilots for knowledge transfer.

### Treat Manila Differently

- The assignment in Cebu City dramatized the difference between Manila and the rest of the Philippines. Outside of Manila the scale of society is much smaller and slower, and communication is actually easier in some respects. By focusing on key industries in regional areas outside of Manila, WM promoters may well be able to achieve more WM per unit of effort. A strategy to promote WM should separately address Metro Manila and the rest of the Philippines.

## **Develop Retail Strategy**

- USAID and other agencies should vigorously involve the retail industries in environmental protection. Serious retail interest was demonstrated. In particular WM promoters should encourage the widespread production and sale of simple WM technologies such as energy-efficient lighting, low flow shower heads, faucet aerators, flow restrictors, spring-loaded hose sprayers, and low-flow toilet tanks. These are immensely practical in developing world urban areas. They also should promote non-toxic alternatives such as water-based paint and non-hazardous cleaners and solvents. Appliances such as solvent distillation units, which are easily manufactured the size of a home dishwasher, could be sold at hardware and appliance stores. The key focus should be on water conservation and non-toxic retail products. Another should be on litter reduction, especially plastic bags, by providing reusable/recyclable bags. Most of the items mentioned above could be easily manufactured in the Philippines, thus creating additional benefits if implemented. USAID should work with the Philippine Retailers Association (contact in Business Cards section) to assess opportunities and identify suppliers. An advisory council of retail leaders should be established.

## APPENDICES

### Figures and Photographs

All conference proceedings, workshop presentations and images were recorded by the sponsors. Numerous photographs are available through them.

### Itinerary

- 9/30 Left Seattle at noon for Manila.
- 10/1 Arrived in Manila at 9 pm.
- 10/2 Flew to Cebu City at 9 am.
- 10/3 Toured Cebu City area; dinner with Grace Favila, Exec. Director of Philippine Business for the Environment (PBE).
- 10/4 Gave presentation on The Greening of the Corporation at PBE conference; facilitated discussion group; met with local press. Dinner with AID, PBE, other conference presenters.
- 10/5 Gave presentation on Elements of a Corporate Environmental Policy at PBE conference; facilitated discussion group. Dinner with USAID, PBE, other conference presenters.
- 10/6 Waste Minimization workshop for government.
- 10/7 Waste Minimization workshop for industry; flew to Manila.
- 10/8 Gave presentation on Retail and the Environment at 6th Asian Retailers Conference and Exhibition.
- 10/9 Left Manila, 9 am. Arrived Seattle, 8 am. Took a nap.

### Persons and Organizations Visited

As a presenter each day of this trip, the author met many people. Please, refer to the PBE conference program for the speakers and organizers met there. The business cards copied in this report are also offered as a reference. Key individuals include:

- Grace Favila, Exec. Director, Philippine Business for the Environment
- John Grayzel, NRMP Director, USAID/Manila
- Richard Stevenson, Area Director, ASEAN Environment Improvement Project
- Jorge Sanchez, General Manager, Dole Philippines, Mindanao
- Reinier Willems, CEO, Shell Philippines
- Marivik Victoria Fernandez-Ricana, Project Manager, Philippine/German Project: Industrial Pollution Control Cebu
- Michael Chua, Exec. Director, Cebu Chamber of Commerce and Industry
- Samie Lim, Chairman, Federation of Asian Retailers Associations
- Isabel Tesoro, President, Tesoro's International Corp., Manila
- Helena Benitez, Chairman, Philippines Women's University

## List of Documents Received

PBE Conference Newsletters (2).

Terminal Report on Waste Minimization Seminar for Industry.

Bulletin newsletter, Industrial Pollution Control Cebu.

Terminal Report, First Project Phase, Phil. - German Project: Industrial Pollution Control Cebu.

Collected short documents on the Environmental Quality Council.

Paper, "Environmental Initiatives at National Steel Corporation".

Directory, Program and Trade Catalog, Asian Retailers Conference and Exposition.

SGV and Co. *Executive Bulletin* on Environment.

**Business Cards of Persons Contacted**

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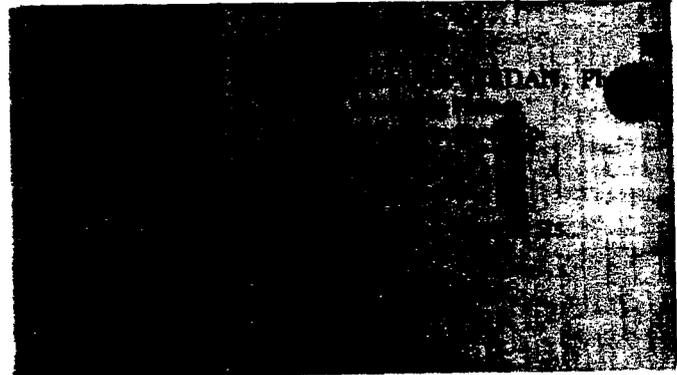
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## Curriculum Vitae

### **BURTON HAMNER**

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WASHINGTON DEPARTMENT OF ECOLOGY

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### **CURRENT POSITION**

- 5/91 - **Environmental Planner** *Bellevue, WA*  
**Washington State Department of Ecology**  
Senior industrial pollution prevention specialist. Help organizations reduce chemical and water use, wastes and emissions. Provide on-site planning and technical assistance to all facility staff levels. Responsible for ensuring the adequate preparation of over 100 pollution prevention plans (to date) by industrial facilities, including assessment, review and compliance; have most facility planning responsibility of all agency staff. Help develop state pollution prevention regulations and guidelines. Agency expert on cost analysis for pollution prevention. Make regular presentations to business, public interest, academic and government groups. Develop communication materials, including training programs, slide shows, press releases, articles. Chief lecturer for agency's Industrial Pollution Prevention Planning course.
- 1/93 - **Consultant US Agency for International Development**  
Provide Waste Minimization training, industry assessments and environmental strategy development in the Philippines and Indonesia on short term assignments.

### **PREVIOUS EXPERIENCE**

- 4/90 - 5/91 **President** **Aqua Marine Enterprises, Inc.** *Seattle, WA*  
Communications and public relations consultant. Conducted market research; designed and installed marketing information systems; wrote articles, press releases, business plans, brochures, etc.
- 6/88 - 4/90 **Marketing Manager** **BioSonics, Inc.** *Seattle, WA*  
Managed new marketing department in sonar engineering and consulting firm. Recruited and managed staff, interns and contractors. Developed and managed budget. Developed marketing information system. Wrote business plans. Designed and produced company marketing materials. Represented company at conferences and shows.
- 5/84 - 5/86 **Environmental Planner** **US Army Corps of Engineers** *Seattle, WA*  
Managed environmental studies for Corps marine projects. Prepared EISs and environmental assessments. Designed, negotiated and managed studies conducted by contractors; made presentations to public; chaired interagency work groups. Developed expertise in wetlands, sediments, fisheries, sampling.
- 2/84 - 5/84 **Marine Policy Analyst** **Washington Environmental Council** *Seattle, WA*  
Researched and prepared technical briefs and articles on marine environmental issues. Obtained and implemented grant to research wastewater discharges to Puget Sound.
- 9/80 - 7/82 **Research Assistant** **Harvard Museum of Zoology** *Cambridge, MA*  
Conducted laboratory and field studies of marine biology and ichthyology.

## **EDUCATION**

- 6/1988      **Master of Business Administration**      *Seattle, WA*  
                 **University of Washington**  
                 Majors: Marketing, Finance
- 6/1988      **Master of Marine Affairs**      *Seattle, WA*  
                 **University of Washington**  
                 Majors: Marine Environmental Policy, Marine Technology Management
- 6/1983      **Bachelor of Arts *cum laude***      *Cambridge, MA*  
                 **Harvard University**  
                 Major: History of Science. Minor: Marine Ecology

## **TRAINING**

- 6/93      ***Quality Enhancement Simulation Training***      *Seattle, WA*  
                 24 -Hour Course. Sponsor: Washington Dept. of Ecology.
- 5/93      ***Total Quality Environmental Management***      *Seattle, WA*  
                 16-Hour Course. Sponsor: Washington State University Conferences.
- 4/93      ***Real Property Environmental Assessment***      *Seattle, WA*  
                 8-Hour Course. Sponsor: Environmental Hazards Control, Inc.
- 3/93      ***Total Quality Management***      *Seattle, WA*  
                 24-Hour Course. Sponsor: Padgett-Thompson Company.
- 7/92      ***Principles of Supervision***      *Tacoma, WA*  
                 28-Hour Course. Sponsor: Washington Dept. of Personnel.
- 2/92      ***Pollution Prevention Assessment Methods***      *Bellevue, WA*  
                 32-Hour Course. Sponsors: Washington Dept. of Ecology,  
                 US EPA, Waste Reduction Institute.
- 12/91      ***Hazardous Materials Safety and Emergency Response***      *Bellevue, WA*  
                 40-Hour Course. Sponsors: Washington Dept. of Ecology, CADRE Group.
- 12/91      ***EPA Basic Inspector Certification***      *Bellevue, WA*  
                 24-Hour Course. Sponsor: US EPA.
- 8/91      ***Pollution Prevention Instructor Training***      *Seattle, WA*  
                 24-Hour Course. Sponsor: US EPA.

## **SELECTED PUBLICATIONS**

- Cost Analysis for Pollution Prevention      Washington Department of Ecology  
"Pollution Prevention Afloat".      *Sea Magazine*, November 1991  
"Fish Size Representation for Sonar Displays."      *Marine Electronics*, Jan/Feb 1990  
"Smart Sonar Shopping."      *Sea Magazine*, April 1989  
Sonar for Fisheries Research.      BioSonics, Inc. Seattle, Washington 1990  
Introduction to Dredged Material Management.      U.S. Army Corps of Engineers, 1987.

**Presentation: Elements of Corporate Environmental Policy**

**Goals**

**Real Results, Not Vague Wishes - AT&T**

**Sustainable Resource Management - Nordstroms Inc.**

**Risk Reduction - Amoco, Sunstrand Aerospace**

**Energy Conservation - Westin Hotels**

**Water Conservation - Production Plating, Magnolia Corp.**

**Toxics Use Reduction - AT&T**

**Waste Reduction - Aquarose, Honda**

**Procedures**

**Management Commitment - various companies**

**Employee Involvement and Responsibility - Dow, 3M, ATL**

**Communications and Training - Boeing, Dow**

**Supplier Management - Madison Paper, Rexham Inc.**

**Research and Development - AT&T, 3M**

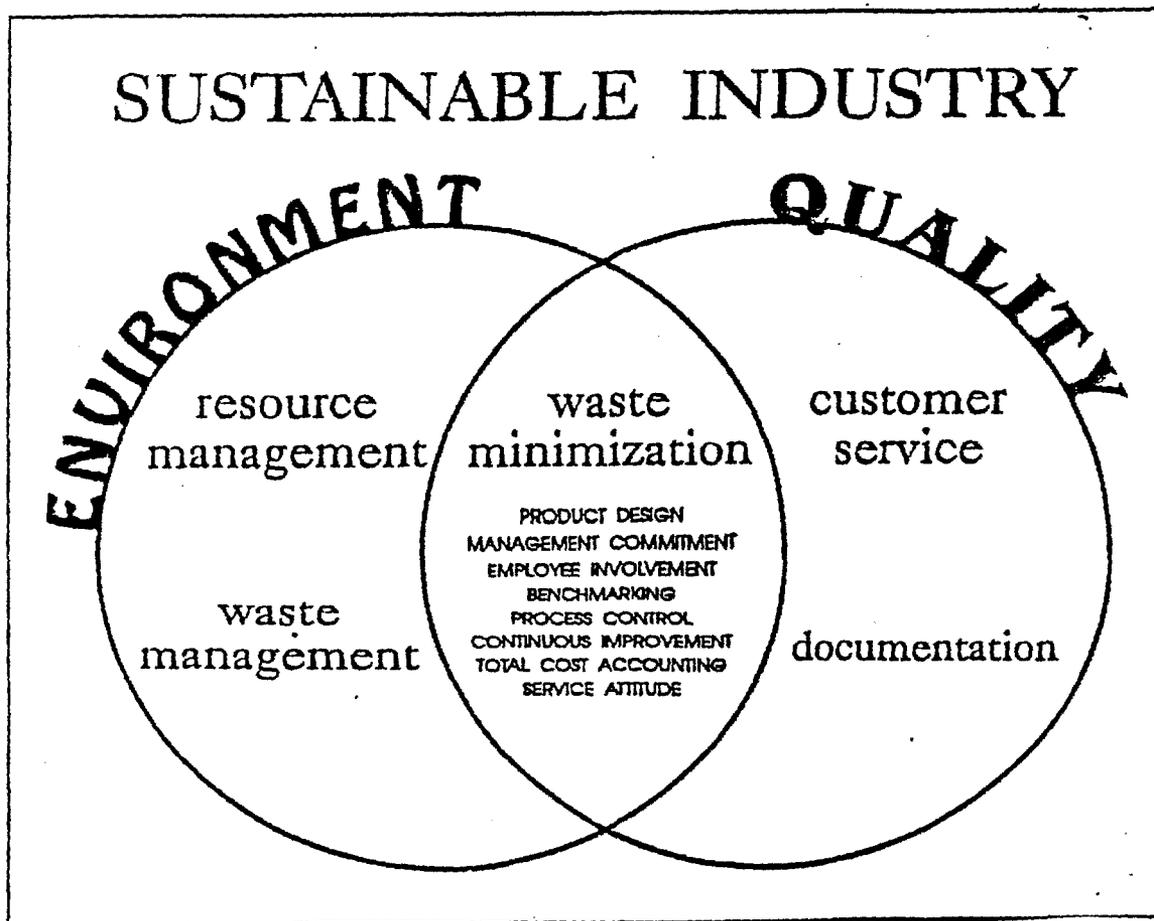
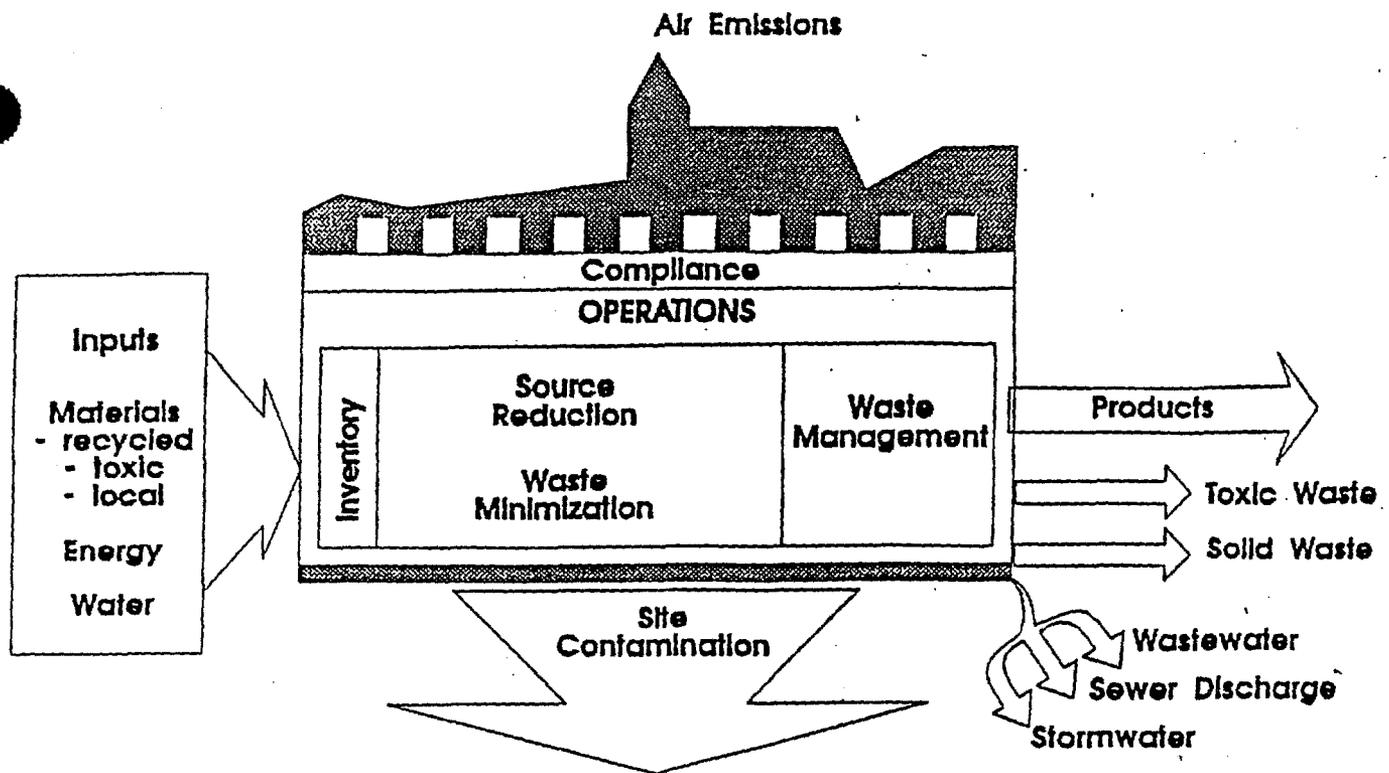
**Accounting - Polaroid, DuPont**

**Incentives**

**Recognizing Employee Motivations - Monsanto**

**Rewarding Creativity - Dow, Northrup**

**Performance Measurement and Reward - Magnolia Corp.**



## **Agenda: Workshop on Waste Minimization for Government**

### "New Strategies for Environmental Sustainability"

- 0830 Introductions and Overview
- 0900 New Directions for Environmental Management: US Experience
  - history of US experience
  - waste minimization
  - new partnerships
  - new tools
- 1000 Environmental Objectives for Cebu - Group Discussion
- 1030 break
- 1045 Environmental Resources Available for Cebu - Group Discussion
- 1130 Resources and Reality - Creating Priorities
  
- 1200 Lunch
  
- 1300 Waste Minimization - the New Strategy for Industrial Pollution
  - why waste happens
  - the Waste Minimization Hierarchy
  - Waste Minimization Plans
  - how to use WM as a complement to regulation
- 1400 Examples of WM: local and foreign case studies
- 1500 break
- 1515 Group Discussions - Using Resources to Promote WM
- 1600 Group Reports
- 1645 Summary and Conclusions

## **Agenda: Workshop on Waste Minimization for Industry**

### Waste Minimization for Environmental Sustainability

- 0830 Introductions and Overview
- 0900 The Greening of the Corporation
  - traditional approaches to waste management
  - developments in the 1980s
  - Waste Minimization and Pollution Prevention
  - the Washington State experience
- 1000 Environmental Concerns in Cebu Industry
- 1030 break
- 1045 Why Waste Happens - Group Exercise
- 1130 Costs of Wastes
  
- 1200 Lunch and Video: "Less is More" (US EPA)
  
- 1300 Waste Minimization - the New Tool for Industrial Environmental Sustainability
  - a new way of thinking
  - Process Analysis - Using Quality Management Tools
  - Measuring costs of waste
- 1400 Preventing Waste: the Waste Minimization Hierarchy
  - case studies
  - Waste Minimization Planning
  - strategies for Implementation
  - examples of WM from participants
- 1500 break
- 1515 Group Discussions - applying WM to your own operations
- 1600 Group Reports
- 1645 Summary and Conclusions

# ABSTRACTS

of

## Papers Presented on October 4, 1993

### "The Greening of the Corporations: What happened in the 80's and What are the trends in the 90's"

by Burton Hamner, Environmental Planner, Washington State, USA

The issue of business in the environment is not a new one. Rather, what is seen is the evolution in the thinking of business to integrate environmental concepts directly into the basic operational practices of business.

Environmental disasters in the 60's and 70's caused by the dumping of toxic waste and other pollutants in various countries actually started more environmental control legislation. This also triggered businesses to set up pollution prevention measures.

In the mid-80's, new concerns appeared, particularly ozone depletion and greenhouse gases from which there is nowhere to hide. The 3M command-and-control approach to environment protection showed that by determining the source of pollution and preventing it, much more cost-effective results could be achieved, and benefit both business and society.

Pollution prevention is not a substitute to pollution management. Man cannot avoid polluting; it is a way of life. By existing, he has an impact on the environment, but he can minimize pollution.

The 90's have revealed that the concept of Total Quality Management (TQM) is a valuable tool for minimizing waste. It is anchored on the principle that waste is a defect, an opportunity one has failed to use. The ISO 9000 and TC 207 will be the standards for auditing and certifying companies' meeting environmental management standards. Expectedly, international contracts, sale of products, and approval of loans will require certification for environmental management quality.

The business of the future will:

1. Design its products from the beginning with an environmental perspective;
2. Market those products, attempting to have a competitive advantage in the customer market through an environmental position;
3. Use total quality management methods to minimize waste and prevent pollution;
4. Encourage the auditing and certification of its operations by independent bodies;
5. Charge back environmental costs to the responsible processes, and will not subsidize pollution through its bookkeeping processes; and
6. Work actively with the banking and investment community in observing principles of environmental sustainability.

**"SUSTAINABLE DEVELOPMENT AT DOLE PHILS."**  
by Jorge Slater, VP & Gen. Manager, DOLE Phils.

Dole Philippines, Inc. (Dolefil) is a fully-integrated Agro-Industrial Plant which maintains about 9,915 hectares of pineapple plantation to support its Cannery in Polomolok, South Cotabato. As a good corporate citizen, Dolefil is committed to support the government's Environmental Protection program.

In growing pineapple, Dolefil uses the terracing method of contour farming and constructed drop structures to stabilize river and gully beds to control flood and soil erosion. To date, 400,000 Gemelina trees were planted along the guliles to stabilize embankments. For the next two years, Dolefil envisioned to plant a total of 1.2 million Gemelina trees as well as planting grass to further stabilize the field.

Dolefil in cooperation with the USAID, completed in 1992 the 4-year forestation program of Mt. Matutum to protect the lowland areas and surrounding municipalities from flood and soil erosion. Dad reforested 1009 hectares and organized 433 households into cooperatives to sustain the program. Also, started in 1991 the 4-year Sarangani Bay marine and inland resources conservation projects.

Dolefil maintains a 9.41 hectares open earthen pond, which is subdivided into 4 major ponds, to treat the Cannery effluent. In 1988 to 1992, the Cannery effluent treatment process was upgraded with the installation of two units of 1500 gpm x 40 mesh stationary parabolic (Sweco) screens to separate entrained solids and 33hp of aerators at pond no. 1. The Cannery implemented the waste minimization program that reduced the water usage from 3800 gpm in 1990 to 2800 gpm to date with the corresponding reduction of Cannery effluent from 2200 gpm to 1590 gpm. Also, the BOD load of the Cannery effluent decreased from 3527 in 1992 to 2500 to date. Further, water conservation thru recycling is being envisioned to reduce the Cannery effluent to 1000 gpm.

The Cannery expansion in 1992 strained the capacity of the effluent treatment pond and Dolefil is considering a complete anaerobic treatment plant to meet DENR standards in four phases starting 1994 until 1997 for a cumulative cost of three million dollars.

## "Meeting Environmental Challenges: Some Corporate Experiences"

by Benito M. Mauricio, Jr., VP for Tech. Mgt., Nat'l Steel Corp.

The growing regulatory pressures and heightened national environmental concerns confront all sectors of the iron and steel industry. It is faced with the serious task of transformation and modernization to meet competitive and stringent demands for quality steel and cleaner environment, a development on the sustainable basis.

At NSC, concern for environment preservation is a tenet of its corporate philosophy. Its vision calls for more than sound management, state-of-the-art technology, and a statute-driven philosophy, but an integral corporate social commitment.

The environmental dimensions of NSC's operations are handled via a total systems approach. A corporate unit is charged with coordinating activities consonant with the policies and directions adopted by management.

Working through a network of Pollution Control officers at the mill floor, these policies are transformed to specific programs and action plans. The following approaches were considered:

1. Pollution/Waste Prevention
2. Waste Recycling
3. Waste Treatment

The development of the country's steel industry will culminate in the full integration of the iron and steel manufacturing sector. Even at this early stage of the planning of the project, NSC has ensured that the environmental dimension is adequately addressed at all phases.

### "The Unilever Experience"

by JEFF HOLE, Tech. Director, Phil. Refining Co.

UNILEVER is a relatively big company; it's number 20 on the "Fortune" list. It has P 1.2 B turnover a year, and an annual international profit of about P 100 B.

UNILEVER has been aware of its environment responsibilities for a long time; it has to be, being in a consumer business. Every chemical, every package used is tested in the laboratories for people's safety and environment-friendliness.

Company is involved in local issues and community projects, such as cleaning esteros and wet markets, to set these up as models of cleanliness for markets all over the country. Reasons for this are that the chosen markets are near the company factory, and that products are sold in these markets.

Yearly attitude surveys have shown that consumers have become more environmentally aware. Presently, these are about smog, jeepneys, smoking; but it's coming to consumer products.

Essentially, pollution doesn't rate very high in the ordinary person's priority here. Essentially, there's a cynicism about government, industry, and policing agents. Industry must cause that cynicism to go away.

Governments can legislate, environmentalists can agitate, but only industry can innovate.

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**"Business Charter for Sustainable Development"**  
by Reinier Willems, Representative, ICC & CEO, Shell Petrol. Corp.

It is the environmental policy of SHELL companies to conduct their activities in such a way as to take foremost account of the health and safety of their employees and of other persons, and to give proper regard to the conservation of the environment. In implementing this policy, SHELL companies not only comply with the requirements of the relevant legislation but promote in an appropriate manner measures for the protection of health, safety and the environment for all who may be affected directly or indirectly by their activities.

Such measures pertain to safety of operations carried out by employees and contractors; product safety, prevention of air, water and soil pollution; and precautions to minimize damage from such accidents as may nevertheless occur.

SHELL companies have thus concentrated on the following principles of the Business Charter for Sustainable Development: (1) Corporate priority; (2) Integrated management; (3) Process improvement; (4) Employee education; and (5) Compliance and reporting.

In Madagascar, a recent exploration venture was carried out with minimum impact on the environment. To undertake seismic work, a path through the jungle was reduced to one meter, instead of the usual three meters. Also, it was positioned around mature trees.

In the second half of 1994, the new refinery will include features such as unleaded gasoline, almost sulphur-free diesel, sophisticated treating of effluent, and noise abatement.

In energy efficiency, this new plant will perform 20% to 30% better than present leading plants, and 40% better than the existing plant.

On employee involvement, SHELL formed teams with operator and maintenance workers, and achieved close to 50 % education in environmental load, with little investment.

It is essential that a maximum number of people be involved. Quality management is a very good method of involving the employees, and even when solving environmental problems.

**"THE AQUAROSE STYLE"**  
by Lawrence Yang, Gen. Manager, Aquarose

Aquarose Bijouterie, Inc. is a small costume jewelry manufacturer (15 employees and capitalization of P 10 M) located in the Mactan Export Processing Zone. It is involved in electroplating.

The company has been able to reduce waste water discharge to a tenth of the normal amount by employing simple and practical methods in dealing with their rinse and make-up water. The presentation discussed some of the techniques used to reduce waste water discharge.

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**"Business and Environment Issues and Concerns"**  
by Leonardo Alejandrino, PBE President

The collapse of the ecosystem can no longer be contained, but only delayed. Necessarily, caring for the environment has become inevitable, in fact, urgent, specially when we remember that we do not own the world, but just borrow it from our children.

Environment protection is not necessarily diametrically opposed to economic growth. Rather, sustainable development integrates both, so that the needs of the present are met without compromising the future generation's ability to meet their own.

We need to recognize the pressure points for sustained environmental awareness. For instance, shareholders can push management to be environment-clean-oriented. Business itself should revise its attitudinal posture towards environmental protection; that it is an investment, not a cost; and that growth and environment are on the same side of development. Everyone should join the bandwagon for sustainable development.

**"The Philippine Business Charter for Sustainable Development"**  
by Jun Salipsip, Trustee, PBE

The "Philippine Business Charter for Sustainable Development" was defined two years ago. In July 1992, a conference was held to discuss environmental concerns. Here, too, fourteen organizations pledged their support for the Charter.

The Charter aims:

1. To provide common guidance on environmental management to all types of business and enterprise worldwide, and to aid them in developing their own policies and programs;
2. To stimulate companies to commit themselves publicly to continued improvement in their environmental performance, with legal regulations as a starting point; and
3. To demonstrate to governments and society that business is taking its environmental responsibilities seriously, thereby helping reduce pressures on governments to over-legislate and strengthen the business voice in debates on public policy.

The Charter involves sixteen (16) principles, namely:

- \* Corporate priority
- \* Environmental policy and management practice
- \* Environmental assessment and monitoring
- \* Clean and safe production
- \* Precautionary approach
- \* Sustainable use of natural resources
- \* Environmentally sound products and services
- \* Employee education
- \* Customer advice
- \* Contractors and suppliers
- \* Emergency preparedness
- \* Transfer of technology
- \* Research
- \* Public communications and cooperation
- \* Compliance and reporting
- \* Proactive role .



# PBE Conference Newsletter

VOL. 1 NO. 2

CEBU PLAZA HOTEL, CEBU CITY

OCTOBER 5, 1993

## Factoran Lays Down Five Proposals

Five propositions were laid down to private business and NGOs by Atty. Fulgencio Factoran, Chairman of the Foundation for the Philippine Environment (PBE) during his luncheon speech to the participants of the "Conference on Corporate Policies and Programs" today.

One proposal was to conserve, sustain and defend the natural resources as the capital basis, an asset which should rather than rehabilitative or curative ones; and the production of safe and healthful products, especially food. Production and enterprise must provide the means for human fulfillment through self-reliant, healthy and creative work. Factoran also underscored the need to promote peace and the sense of community in all places of activity.

Lauding the NGOs for their long advocacy for the rights of indigenous cultural communities, Factoran also disclosed that the Department of Environment and Natural Resources (DENR) recognized these rights in the NIPAS Law.

He then appealed to business, the NGOs, government agencies, citizens group, people organizations and cooperatives to take a step back and see where the country is heading.

To recall, Factoran is the former DENR Secretary of the Aquino government.

## Malayang Bats for Ecological Integrity

"The partnership of government and business in the Philippines is no longer a matter of choice, nor a matter of political nicety. It is rather an imperative."

Thus stressed DENR Undersecretary Ben Malayang this morning during his keynote message to over 120 participants in the "Conference on Corporate Policies and Programs." The conference enters its second and last day today at the Cebu Plaza Hotel this city.

In underscoring the urgency of government-business partnership, Malayang said that such partnership is a crucial ingredient to the country's survival.

On the country's environmental thrust, he stated that high levels of ecological integrity are needed to sustain economic activities.

Speaking of "ECOREV" as some revolution, Malayang said it seeks to institutionalize four policy thrusts of the government. First, to move toward integration of problems and solutions related to the environment. Second, to have a citizenry-led environment sector. Third, to emphasize development interventions rather than regulations. And fourth, to aim for equity in access to and use of resources, rather than settle for objectives.

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# ABSTRACTS

## of Papers Presented on October 5, 1993

### "Elements of A Corporate Environmental Policy"

by Burton Hamner, Environmental Planner, Washington State

The bases for environmental management are the three principles of self-awareness, forecasting and integration. A corporate citizen should know what's going on in his company as far as waste management is concerned, and whether he is environment-friendly. The latter may be developed by data banking, among others.

Wastes are of two types: the processed and the non-processed. The processed waste as emitted by machines, and are thus predictable. Necessarily, appropriate waste management practices can be implemented. The non-processed are consequences of poor housekeeping, and poor training of personnel which triggers material wastage.

The second principle, forecasting, allows seeing ahead, like five-year scenarios. Legislations could be made within the same time frame. Part of forecasting is to determine alternative raw materials like water-based ink, instead of the oil-based or fuel-based.

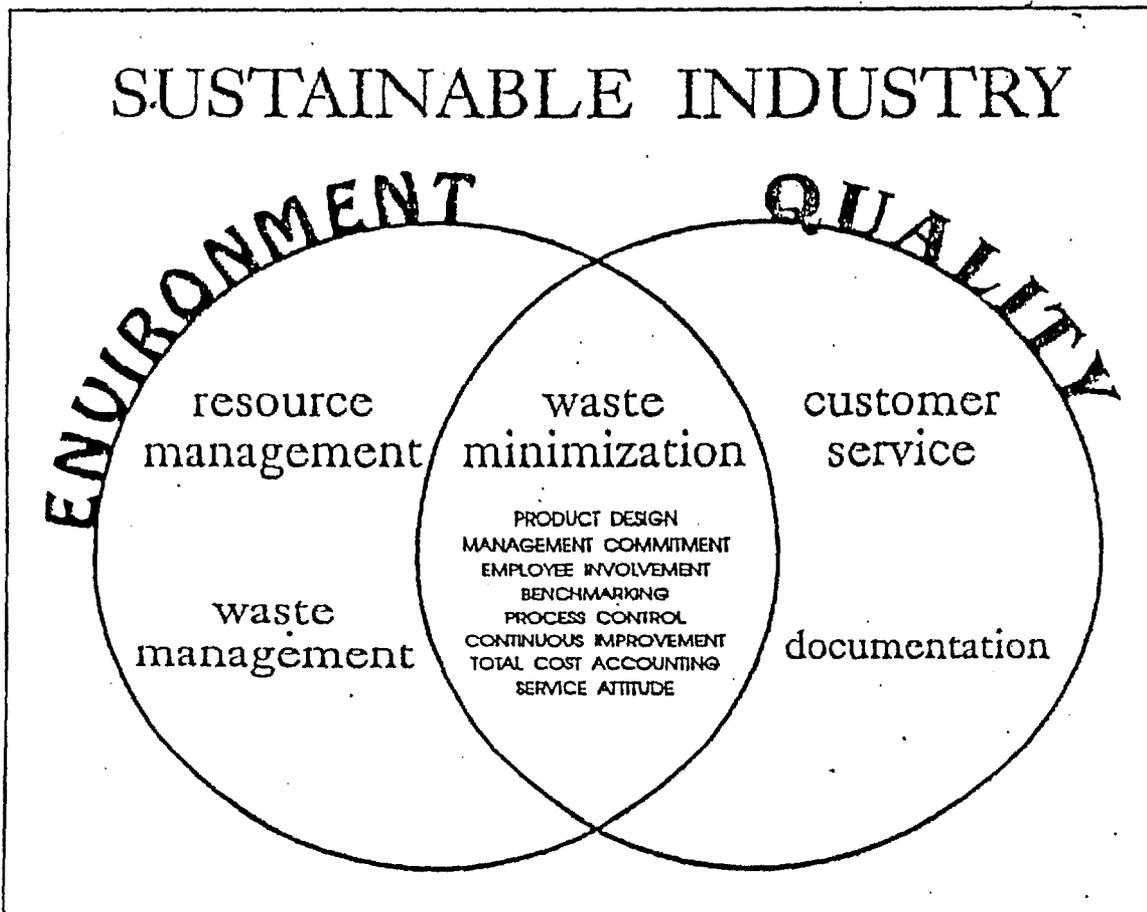
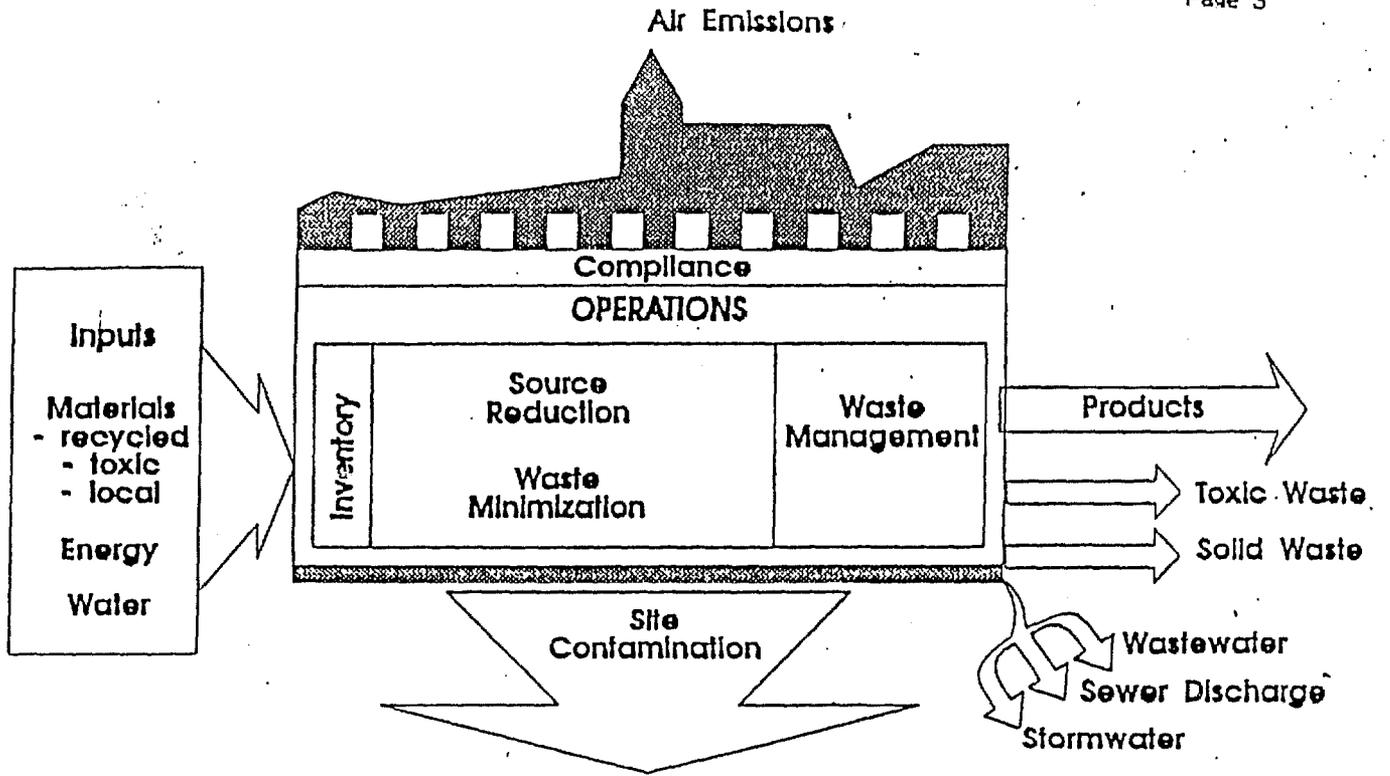
The third principle, integration, refers to coordinating the whole activity of management from purchasing to accounting to manufacturing, etc. Such activities should not occur apart from the other components.

A corporate environmental policy has three components: GOALS, PROCEDURES and INCENTIVES. Goals determine directions. Procedures involve management commitment, employee involvement (which can be facilitated through TQM or QC), customer relations and supplier management. Incentives should reinforce employee efforts and commitments to improvement of productivity and quality.

procedures involve ma, but rather oals, procedures and incentives comprise the elements of a corporate environmental policy.

by John Grayzel, Chief of USAID Office for Natural Resources,  
Agriculture and Decentralization

Business should access new ideas, look far and wide for these, and access these resources. Thrust should be to scout for good investments, instead of the usual expectation of subsidies.



**"Development of a Code of Environmental Management Practice"**  
by Jeffrey Mijares, Chairman of Sugar Industry Environment Committee, Phil. Sugar Millers' Association

Past efforts by the sugar mills to meet the pressures exerted on them by the government and other institutions have resulted to limited success in curbing the pollution problems in the sugar milling industry. Realizing the futility of dealing with pollution problems individually, industry leaders have decided to unite and meet environmental challenges in an industry-wide basis. Thus, the Sugar Industry Environment Committee (SIEC) was organized last March 18, 1993. One of the initial tasks is to review the industry's capability of complying with pollution standards and to present to the DENR the industry's recommendations/position. The ultimate goal of the industry, however, is to develop an environmental management program for the sugar sector which shall be implemented through a self-regulation plan now being drafted by the SIEC.

**"Resource Support for Corporate Environmental Program"**  
by David Wadsworth, Chief of Party, IEMP

The goal of the Industrial Environmental Management Program is to encourage sustainable development while reducing industrial pollution. This is accomplished through three interrelated project components: (1) Pollution Reduction Initiative; (2) Capability Building, and (3) Policy Studies and Public/Private Dialogues. The most direct IEMP support to industry is through the PMA program in the Pollution Reduction Initiative component.

The Government of the Philippines, through IEMP, is developing incentives for industry to adopt waste minimization programs. One incentive is DAO 17 with up to a year moratorium from issuance of cease-and-desist orders when an industrial facility voluntarily joins the PMA programs. At present, industries targeted for actual on-site PMAs are limited. But IEMP can help introduce the PMA program to individual and industrial groups and professional associations, and provide information and assistance in developing individual in-house PMA teams and programs. Once established, IEMP will follow up with technical assistance and survey and assessment of progress.

To qualify for the PMA program, IEMP expects a commitment from management to implement pollution reduction options where it can be shown, through feasibility analysis, that doing so is economically attractive to the facility. Secondly, to minimize IEMP resources and the PMA process, industry must commit to providing baseline process and financial data to be used for the feasibility analysis. Further, the facility must agree to periodic monitoring and assessment by IEMP.

**Richard Stevenson, Chief of Party, ASEAN Environmental Improvement Project**

Despite efforts to minimize pollution, industry, transport and agriculture continue contributing to the environment's deterioration. The great majority of these problems stem from private sector actions. Yet it has the ability and the resources to address the problems and alter the pattern of degradation.

Both public and private sectors, government and business must be collaborative, rather than confrontational, to attain national environmental goals. A new strategy is thus needed, coordinating three principal thrusts: (1) Regulation, enforcement and monitoring of business in its compliance with established standards; (2) Infrastructure development; and (3) Information, coordination and facilitation.

The new trend in foreign assistance programs is to address all the three abovementioned areas. The USAID-funded ASEAN Environmental Improvement Project (EIP) works with governments to, among others, introduce new technology which minimizes waste in manufacturing, converts wastes to profitable products, or manages wastes more efficiently and at lower cost.

**by Belen G. Olano, Asst. Vice-President, OIC, Project Management Dept. I, DBP**

The Development Bank of the Philippines (DBP) fully supports conservation of the environment. In its wholesale banking facility, it shall sensitize the participating financial institutions to the risks associated with ignoring environmental concerns. It requires the submission of the Environmental Compliance Certificate (ECC) or its equivalent, to make loan availments. Discussions of the impact on the environment of the project are required to be incorporated in the credit applications for projects not requiring full-blown Environmental Impact Statement.

**by Augusto S. Santos Jr., Chairman for Committee on Environment, Cebu Chamber of Commerce and Industry (CCCI)**

The CCCI's involvement in environmental concerns was manifested in the launching of the GTZ-supported "Industrial Pollution Control - Cebu" Project.

Its services to small-size and medium-size industries include providing capabilities and expertise on waste audits and characterization, waste minimization schemes, and waste abatement and treatment.

With its unit on RP-German Rational Use of Energy," it handles energy-related matters such as energy audit, fuel analysis, combustion product analysis, boiler efficiency test, and combustion equipment design.

CCCI's future involvements include setting up a Model Factory showcasing the application of waste minimization and clean technology in the electroplating industry, the ongoing Reforestation program, the institutionalization of the newly-created "Environmental Quality Council (EQC)", and setting up a Common Treatment Facility for the toxic and hazardous waste generated by the metal-finishing industry.

**WORKSHOP I**  
Identify Environmental Challenges and Opportunities  
**WORKSHOP OUTPUT MATRIX**

## I. SERVICE SECTOR

MAJOR ENVIRONMENTAL CHALLENGES/PROBLEMS	FACTORS THAT CONTRIBUTE / CAUSE THE CHALLENGES	OPPORTUNITIES	RESPONSIVE ACTIONS OF THE COMPANY
A. Inaccessible/Ineffective information and education	<ol style="list-style-type: none"> <li>1. Inadequate information delivery system</li> <li>2. Conflict among agencies over jurisdiction</li> <li>3. Lack of environmental consciousness in the Filipinos' value system, practices and socio-techno processual resources</li> </ol>	<ol style="list-style-type: none"> <li>1. Massive information campaign via seminars/ fora and mass media; academic response to environmental issues in curriculum design; industry-academic linkages</li> <li>2. Consultancy Services</li> </ol>	<ol style="list-style-type: none"> <li>1. Community outreach/academic programs</li> <li>2. Networking</li> </ol>
B. Lack of Water ( Denuded forests, Systems Loss & Wasteful Consumption)	<ol style="list-style-type: none"> <li>1. Denudation</li> <li>2. Conversion to Residential Lots</li> <li>3. Systems Loss               <ol style="list-style-type: none"> <li>a.) Pilferage</li> <li>b.) Dilapidated Systems</li> <li>c.) Wasteful Consumption (swimming pool, wastage by gardeners, golf courses, etc.)</li> <li>d.) Poor Systems Maintenance</li> </ol> </li> <li>4. Population Pressure</li> <li>5. Lack of awareness</li> </ol>	<ol style="list-style-type: none"> <li>1. Investing P 125 M for rehabilitation for next 5 years</li> <li>2. Organize citizenry/ politicians to report leakages</li> <li>3. Institutional Strengthening</li> <li>4. Reforestation (environment &amp; watersheds)</li> <li>5. Tapping industries to put up endowment</li> <li>6. Partnerships with government, NGO's and business</li> <li>7. Building big/Gabion dams</li> <li>8. Plumbing maintenance</li> <li>9. Mobilize citizens to put up dams</li> </ol>	

WORKSHOP I  
Identifying Environmental Challenges and Opportunities  
WORKSHOP OUTPUT MATRIX

## I. SERVICE SECTOR (Con't)

MAJOR ENVIRONMENTAL CHALLENGES/PROBLEMS	FACTORS THAT CONTRIBUTE / CAUSE THE CHALLENGES	OPPORTUNITIES	RESPONSIVE ACTIONS OF THE COMPANY
C. POLLUTION (Solid Waste, Noise and Air Pollution)	<ol style="list-style-type: none"> <li>1. Extreme poverty and inequitable access to resources</li> <li>2. Insufficient capital and technical knowhow</li> <li>3. Complacency in implementation</li> <li>4. Inadequate facilities</li> <li>5. Inefficient utilization</li> <li>6. Lenient legal enforcement</li> <li>7. Inadequate Awareness</li> <li>8. Technologically backward/inefficient equipment</li> </ol>	<ol style="list-style-type: none"> <li>1. Problem mediation</li> <li>2. Incentives from banks, government, etc.</li> <li>3. Setting up water exchange/utilization programs</li> <li>4. Education / Advocacy</li> <li>5. Recycling paper, etc.</li> <li>6. Optimizing resources use</li> <li>7. Efficient car maintenance</li> <li>8. Strengthening measures to encourage pollution prevention</li> <li>9. Incentives from the government</li> </ol>	<ol style="list-style-type: none"> <li>1. Monitoring System</li> <li>2. Construction of Gabion dams</li> <li>3. Reforestation</li> </ol>

Conference on  
Corporate Environmental Policies  
and Programs

Workshop Output of Manufacturing Group I

PRIORITY ENVIRONMENTAL PROBLEMS & CONCERNS	C A U S E S	PROPOSALS AND RECOMMENDATIONS
<p>A. WASTE MANAGEMENT</p> <p>[include among others, solid, liquid and gaseous wastes]</p>	<ul style="list-style-type: none"> <li>&gt;lack of appropriate technology</li> <li>&gt;prohibitive cost of pollution control facilities &amp; equipment</li> <li>&gt;poor monitoring &amp; implementation of environmental laws &amp; standards by the government</li> <li>&gt;some environmental laws were adopted from foreign countries and are not relevant and practical to Philippine situations</li> <li>&gt;continuous use of obsolete processes and equipment</li> <li>&gt;lack of top management commitment</li> </ul>	<ol style="list-style-type: none"> <li>1. promote waste-exchange program among companies and between countries;</li> <li>2. waste minimization from the source will result in lesser packaging;</li> <li>3. promote the use of concentrates;</li> <li>4. promote the use of refills especially with consumer (household) goods/products;</li> <li>5. government to provide industrial extension workers (like in agriculture);</li> <li>6. encourage re-cycling practice</li> </ol>
<p>B. Air Pollution</p>	<ul style="list-style-type: none"> <li>&gt;stringent standards used or set by the government</li> <li>&gt;lack of gov't support to industries</li> <li>&gt;third-world countries have been made as the dumping ground of obsolete and junk equipment</li> <li>&gt;poor quality of fuel being sold to Phil. industries</li> </ul>	<ol style="list-style-type: none"> <li>1. use alternative sources of energy</li> <li>2. encourage more efficient use of energy</li> <li>3. efficient maintenance of equipment to prevent or minimize wastage</li> <li>4. gov't to provide incentives to environment-friendly companies</li> <li>5. gov't to subsidize and assist companies</li> <li>6. gov't to acquire more sophisticated monitoring equipment</li> <li>7. PBE to issue a NEWSLETTER to companies and update them on environmental matters</li> <li>8. encourage companies to adopt bench-marking and resource-sharing</li> </ol>
<p>C. IMPROPER USE OF PEST-ICIDES</p>	<ul style="list-style-type: none"> <li>&gt;avoidance of product-stewardship among companies</li> <li>&gt;ignorance on the use as well as the availability of organic pesticides</li> <li>&gt;financial constraints being experienced by certain companies</li> </ul>	<ol style="list-style-type: none"> <li>1. education of the people especially farmers</li> <li>2. promote the use of organic pesticides and biological control</li> <li>3. encourage banks to lower their interest rates on agricultural loans</li> <li>4. benchmarking and monitoring by government</li> <li>5. provide incentives to users of organic pesticides</li> </ol>
<p>D. FOREST DENUDATION AND WATER DEPLETION</p>	<ul style="list-style-type: none"> <li>&gt;legal and illegal logging</li> <li>&gt;poverty</li> <li>&gt;overpopulation</li> <li>&gt;zoning of lands by LGU's</li> <li>&gt;over-pumping of water by large companies</li> </ul>	<ol style="list-style-type: none"> <li>1. put a total stop in the use of wood in various industrial needs e.g., use square tubes instead of wood</li> <li>2. use reverse osmosis; recycling</li> <li>3. reforestation of watershed areas; soil cond.</li> <li>4. adopt better water-resource management</li> <li>5. education - as a course or subject in schools</li> </ol>

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**TERMINAL REPORT  
ON**

**WASTE MINIMIZATION**

*" A new tool for Industrial and Environmental Sustainability "*

**BRIEF DESCRIPTION :**

Metro Cebu is identified as a potential area for economic development in the Philippines. Investors are enticed to establish industries to boost the economy. However, development projects and industrial growth poses a threat of environmental degradation and adverse effects on public health.

Most industries in Metro Cebu are of small and medium scale , which are engaged in from metal finishing to food processing. A number of multi national companies are located at the Mactan Export Processing Zone. Regardless of size and activity this industries exist pollution problem is one major factor that affect the degradation of the environment in Metro Cebu. Water in Cebu is in critical condition, siltation of ground water, deforestation of the water shed and indiscriminate use of water by industries.

Major issues were discussed during the seminar like infrastructure, new technologies and information dessimination. The infrastructure problem consist of no definite disposal system, drainage system and proper zoning.

The approach in new technologies was the main concern on the seminar as the participants were from the Industries. They were interested on Waste Minimization methods which it could apply to their own company. The participants were also interested on the recycling of waste, pollution control equipment's and the program of the government in the United States regarding pollution control measures given to industries.

Waste minimization is an alternative to the end of pipe treatment of Industrial waste, thus doing away with the bulkier and larger treatment systems and facilities and reduces the cost of treatment.

This seminar was spearheaded by the Cebu Chamber of Commerce and Industry in line with the Philippine Business for Environment activity. The seminar was made successful with the support from the Pollution Control Association of the Philippines, Incorporated. (region VII), Department of Environment and Natural Resources (Region VII), Environmental Quality Council , Philippine - German Project Industrial Pollution Control Cebu and the United States Agency for International Development.

The seminar was held at the Roof Deck, Baseline Restaurant, Cebu City on October 7, 1993.

## PARTICIPATION

TARGET	ACTUAL	VARIANCE
40	51	11

### BREAKDOWN OF PARTICIPANT WHICH TYPE OF INDUSTRIES INVOLVED TO :

INDUSTRY TYPE	INDUSTRY SIZE	NO. OF PARTICIPANTS
1. Semi Conductor	Multi- National	6
2. Electroplating Industry	Small / Medium	4
3. Food Processing ( canning )	Medium / Large	7
4. Carriageenan processing	Medium/ large	4
5. Gov't. Electric Power Plant	Large	3
6. Feeds , Oil Mills	Medium / Large	6
7. Gas and Petroleum	Medium / Large	4
8. Mining	Medium	3
9. Service / Environmentalist / Etc.		14

\* Media was also present during the seminar

1. GMA - 7 Television
2. Sunstar Daily - local newspaper

\* Total number of paying participant is 44

\* Representative from the DENR, PCAPI, CCCI and PG-IPCC was also present during the seminar.

\* Non - paying participant are the representatives from CCCI, PG-IPCC, PCAPI officer and Media.

## FINANCIAL REPORT

### INCOME :

Registration fee ( 400.00 x 44 )	P 17,600.00
	-----
Total	P 17,600.00

### EXPENSE :

Venue ( 58 @ 195 exclude minor orders and rentals )	P 11,310.00
Rental of VHS player (1 day )	P 528.00
Materials ( Handouts, Photocopying, envelopes, Pads, ballpens, etc )	P 1,800.00
Token for the Speaker	P 288.00
	-----
TOTAL ( Approx. )	P 13,926.00
 NET INCOME ( Approx. )	 P 3,674.00
 Account receivable by CCCI - IPC from 70 - 30 Profit with PCAPI	 P 2,571.80

### ANALYSES / EVALUATION :

The analyses and evaluation forms were given to the participant during the seminar. This include the evaluation of the resource speaker, venue, comments and suggestion for future seminar to be conducted.

EVALUATION OF THE RESOURCE SPEAKER	EVALUATION ON THE VENUE / SEMINAR PROG.	SUGGESTION FOR THE NEXT SEMINAR
1. Knowledgeable in WM	Venue is satisfactory / Seminar program is correlated	Workshop on pollution control monitoring
2. Systematic	Venue easy access / concept of WM for revenue to company	Not training but information center pertaining to WM technology
3. Flow of discussion converge to a common point	food was OK./ New horizon Industrial and environmental Sustainability	Sustaining and continued lectures of the same nature
3. Impressive	The area was open that it would distract noise from outside / be adopted to firms	Technical aspect of WM.
4. He is an Institution	Relevant and correlates with the overall program	Seminar on the Substitute to Toxic & hazardous Chemicals

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There were 24 copies of evaluation form received after the seminar . The common comment and suggestion are in the form of matrix.

The Cebu Chamber of Commerce and Industry and the Pollution Control Association of the Philippines, Inc. would like to thank the resource speaker Mr. Burton Hamner for sharing his knowledge and expertise on waste minimization.

**RECOMMENDATION :**

A seminar on Waste Minimization but focused on technical aspect as a follow-up . The problem with this is the resource speaker. Await that the USAID could sponsor for the speaker.

Prepared by :



Alberto M. Palacio Jr.  
CCCI - IPC

NOTED :  
A. ATILLO

