



**ASEAN – German Technical Cooperation**

**gtz**



## **Clean Air for Smaller Cities in the ASEAN Region Project Philippines National Workshop**

**The A. Venue Hotel Suites, Antel Lifestyle City, 7829 Makati Avenue  
Makati City, Philippines**

**Thursday, 22 October 2009**

[www.citiesforcleanair.org](http://www.citiesforcleanair.org)



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## **I. Background Information**

Attaining sustainable development comes with the indispensable component of environmental protection. One of the most pressing issues on the environment is air pollution that is mainly caused by human activities. Air pollution levels in many urban areas attain concentrations that cause a great toll to human health, animals and infrastructures.

Poor air quality in urban areas is mainly caused by combustion of fuel by industries, households and vehicles, as well as forest fires and dust. Pollutants are either emitted directly or are the result of chemical reactions. Pollutants provoke a wide range of negative health effects such as lung and heart malfunctions, bronchitis or asthma. Cancer risk increases as the air quality degrades.

Inadequate urban planning, the establishment of satellite cities and the preference of individual over public transport result in increasing motor vehicle mileage which in turn increases the level of air pollution in urban conglomerates. Fast growing industries applying outdated technology, the use of poor quality fuel or coal, and the lack of land-use planning allowing heavily polluting factories to produce in urban dwelling centers also contribute to air quality.

Amidst this challenge, smaller cities are hardly considered. Although these smaller cities play a vital role in national development, they suffer from extensive environmental degradation, the extent of which is often not even known. These smaller cities are rather neglected in the overall development planning as well as in the national and international consideration. They lack capacities to generate sufficient local financial resources and often suffer from weak capacities to utilize available resources. Strong and effective administrative structures are rare and adequate numbers of trained technical personnel are lacking.

Thus, the Association of Southeast Asian Nations (ASEAN) Working Group on Environmentally Sustainable Cities (AWGESC) and the German Government through the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), through the “Clean Air for Smaller Cities in the ASEAN Region” Project, is assisting smaller cities of between 150,000 to 1.5 million inhabitants to be able to develop and implement measures to improve their air quality.

## **II. Workshop Objectives**

The conduct of the National Workshop for Philippine cities aims the following objectives:

- a. To inform stakeholders of the sources and impacts of air pollution in Asia;
- b. To present the air quality in the Philippines;



- c. To identify the causes of air pollution from past and current practices;
- d. To share the good practices on air quality management from all over the world; and
- e. To share the steps in developing air quality action plans in cities.

### III. Participants and Speakers

The main target participants of the national workshop were city officers who are involved in air quality management program. Other stakeholders were also invited, namely representatives from the academic institutions, NGOs, private sector, industry organizations and media.

### IV. Proceedings

#### Summary

The main speakers and resource persons of the national workshop were from GTZ Mission Team. They provided inputs related to the conduct and development of a local clean air action plan. Hon. Jose Atienza Jr., Secretary of the Environment and Natural Resources was the guest of honor. The welcome remark was followed by a presentation by Mr. Roland Haas, GTZ Project Advisor who presented the ASEAN GTZ Clean Air for Smaller Cities Project (Project). The status of air quality in the Philippines was delivered by DENR Usec. Lucille Sering. Atty. Glynda Bathan, Policy and Partnership Manager of Clean Air Initiative for Asian Cities (CAI-Asia) Center then gave a presentation on the sources and impacts of air pollution in Asia.

The cities of Iloilo and Cagayan de Oro, the two cities selected by the project team to receive assistance under the Project, made a presentation on the present status their air quality management (AQM) initiatives. The city presentations included background information of the city, baseline data on the sources of pollution and on-going AQM programs.

Time for question and answers was allotted after every city presentation to give way to some remarks, observation and comments from the audience. The three GTZ Mission team members then proceeded with their sharing of the global experiences and prevailing trends in AQM.

To facilitate further the discussion and sharing on the reasons for the air pollution in a city, a “**Fish Bowl**” exercise was conducted. Participants were given a chance to present their ideas and share their views and observations. Invited local air quality experts, Dr. Flora Santos of the Philippine Nuclear Research Institute and Dr. Manuel Biona of the Don Bosco Technical School, interacted with the audience on air pollution issues (e.g., technical, policy, institutional, financial). This was followed by the presentation on the “**Elements of a Clean Air Plan**” presented by the GTZ resource persons.



A working group session was then organized for participants to identify issues and challenges and recommended solutions to air pollution concerns in cities. Outputs of the three groups were presented in the plenary. An open forum portion was allotted as venue for final comments, suggestions and other remarks from the participants. Finally, the facilitator recapitulated the highlights of the workshop and facilitated the discussion of next steps and future activities of the project.

**a. Opening Remarks (Sec. Jose Atienza, DENR)**

In his message, Sec. Atienza emphasized the beauty of the Philippines noting the gifts of natural resources everyone can see across the country. But he also expressed alarm with all the activities of man that gradually degrades environment. This was highlighted in the light of the recent calamities that struck Metro Manila and Northern Luzon. He asked everyone to take care of the environment as this is our only gift for the next generation of people. He expressed thanks to the organizers for taking the initiatives to gather various stakeholders to dialogue and consultation to address air pollution in the country. He specifically mentioned the big role and responsibility of LGUs on this effort. Thus he assured that DENR will continue to support programs and initiatives that collectively promote clean air.

**b. Introduction to the Project (Mr. Roland Haas, GTZ)**

Mr. Roland Haas oriented the participants with what the project is all about and the assistance they are offering for the pilot cities. He pointed out that smaller cities have an important role to play in the national development but faced with difficult tasks because of limited resources, both financial and technical. It is in this light that smaller cities must be assisted so that some mistakes taken by bigger cities will no longer be repeated.

Mr. Haas shared the expected output of the project. He mentioned that the ultimate result of the project should be a cleaner air for the community, which will be realized with a well-crafted local clean air action plan. He further noted that the key to a successful plan is its process. This means there is meaningful public participation and stakeholder's support. Thus local ownership is very important.

He then proceeded with the discussion on how cities were selected and who were involved in the process. Furthermore, he presented different stages of the project and lastly provided insights on how cities will be benefited with the project.

**c. Air Quality in the Philippines (Usec. Lucille Sering, DENR)**

Usec Sering presented the status of air quality in the Philippines as studied and monitored by the DENR. The national government is in charge with various programs and projects related to air quality management. She started with the presentation of the baseline data. For the emission inventory, she noted that the mobile source has the biggest share in terms of sources of air pollution, which accounts to 65% in 2006. This is followed by the stationary and area sources.



Carbon dioxide is the biggest pollutants as gathered and monitored by the department.

She further shared some interesting trends and data on ambient air quality in NCR and key cities in the country. Generally, data showed that the air quality is improving but still exceeded the annual guideline value of 60 ug/Ncm.

Usec Sering gave also an overview of the clean air act as well as key milestones and some modest achievements. She presented the different designated airsheds in the country and updates on how to tap the clean air management fund through the issuance of memorandum orders. She also enumerated key programs and projects of DENR in partnership with various sectors in cleaning the air.

Lastly she expressed gratitude to key stakeholders that cooperate with the government in terms of advocating clean air initiatives both at the national and local levels.

**d. Air Pollution in Asia: Sources and Impacts (Atty. Glynda Bathan, CAI-Asia Center)**

Atty. Bathan, being part of the international organization that coordinates various initiatives to clean the air at the regional level, she presented key updates on the status of air quality especially for key Asian cities. She enlightened everyone on the concept of air pollution taking emphasis on key data and statistics. She posed the question why we need to address air pollution. Contributory to the current status of air pollution in Asian cities are population growth, urbanization, motorization and energy consumption. She further presented why cities needed to act now and the implication of air pollution to human health, tourism and development, food security and weather pattern.

Lastly she thanks everyone present and specially mentioned the key partners that organize the national workshop as this is a vital and strategic element to involve everyone to work for cleaner and healthier air.

**e. Iloilo City presentation (Engr. Noel Hechanova, ENRO, City of Iloilo)**

Mr. Hechanova is the head of the Environment and Natural Resources Office of Iloilo City. He gave the background information of the city followed by the air quality issues and concerns that the city is facing currently. He identified the dominant sources and reasons for these challenges. He further shared relevant statistics to illustrate air pollution trends in the city. Specifically he cited information on health impacts of air pollution to the constituents of the city. Finally he shared the city's current programs and projects which he pointed out that all have the stakeholder's support and interest. He pointed out that indeed the key to successful project implementation is consultation that generates support from the general public.

**f. Cagayan de Oro City presentation (Ms. Faye, Xavier University)**



The academic partner representative did the presentation on the current status of air quality management in Cagayan de Oro City. She started with presenting key background information about the city emphasizing the sources of air pollution. She has the data of the trends of vehicle registration in the region and city as comparative information for analysis. She then presented various plans, programs and activities that promote good management of air quality in the city. She noted that most of these underwent public consultation and thus generates public support. Lastly she itemized the current gaps in their process of assessing the city's program on clean air. These were:

- A clean air action plan that is linked with the city's land use plan
- Long term technical assistance to support training of personnel especially for air quality monitoring purposes
- Procurement of important instruments/machines and gadgets
- Policy formulation support

**g. Question and Answer Portion:**

1. Is there a solid waste burning program in CDO and Iloilo?

**Response:** None in Iloilo because most agricultural lands have been converted to subdivisions.

2. CDO passed an anti-smoke belching ordinance in 1993. But when CAA was passed, CDO no longer intensified its mandate because the CAA states DOTC is responsible for anti-smoke belching campaign. Iloilo City has the same problem with fines cannot be retained at the LGU level if cities are only deputized by LTO, this will directly go to AQMF. Being a national fund that go straight to national treasury, LGUs now have difficulty in tapping this. How we go about this issue?

**Response:** If local ordinance is enacted, the fines can be retained by the city. As example, P6Million in penalties alone in Pasig per year are collected and this can make them buy machines for emission testing. LGU can have its own accredited emission testing centers - this is a matter that still needs to be clarified because there may be conflict of interest.

3. The DOTC did not accredit CDO emission testing center so equipment is not being used. How we resolved this?

**Response:** The city can make use of the equipment for roadside apprehension

4. General Santos power plant was approved without proper ECC. Why is it so?

**Response:** This will be as an issue to be raised officially to the DENR



#### **h. Good practices from all over the world**

Dr. Axel Friedrich shared some success stories about air pollution control measures in developed countries. A key lesson he shared was in solving the motor vehicle pollution problem, a comprehensive approach is required. Some control measures he pointed out were:

- Limit values set by law
- In Use Compliance Testing
- Inspection and Maintenance
- Financial incentives, promoting earlier introduction of cleaner vehicles and retrofitting
- Public awareness e.g. German Blue Angel

Mr. Rudolf Petersen shared some good examples and models for ensuring clean air as reflective from his international experiences and observation. He pointed out the importance of good land use planning to manage human activities and urban mobility. Moreover, he mentioned that a better transport planning as another key factor to address air pollution concerns. Cities must avoid unplanned growth to remain progressive and sustainable.

Mr. Phillip Sayeg's expertise on transportation planning gave light on interesting lessons on managing air quality in cities. He mentioned key programs in transportation planning and management that promote the use of non-motorized transport as cycling and walking. His global experience and exposure reiterates the giving of importance to people rather than vehicles in the entire transport planning process.

#### **i. Fish Bowl or On-stage Interaction: Key discussion points**

1. Baguio can adopt more stringent standards because of its special circumstance – higher elevation.
2. If city is hilly, how do we promote cycling? Some places are flat so we can encourage them to bike at these areas. Baguio has very good climate which is ideal for cycling and this can be promoted.
3. Bad road condition in Iloilo City is not conducive for cycling. Instead of Iloilo City geared towards building the next flyover it should rather promote non-motorized transport infrastructure systems.
4. Pedicabs are a neglected transport mode that has potential to be an alternative way of moving people.
5. How can we establish a bicycle lane in the central business district of Iloilo? Mr. Petersen advised to ban cars in certain areas and allow only people there. Then allow only vehicles on certain times. In planning, avoid long-distances but allow mix uses. Create in a city an environment that is conducive to both living and working. Bus transit system should allow for balance number of



passengers for its opposite directions. There will be lesser cars if public transport is efficient and effective in facilitating mobility in central areas of cities. Mr. Friedrich shared if one remove cars, inner cities will cost more. While Mr. Sayeg emphasized that there are still many opportunities. Speed control is one among others.

6. Mr. Prudencio Magallanes, Iloilo (FPU): How to address reconditioned engine? Use of bunker fuel may do. Mr. Friedrich said we have to have a way to bring this issue of importing 2<sup>nd</sup> hand engines to national level; it will in the end mean higher fuel consumption. Ms. Bebet Gozun said that government should disallow selling of 2<sup>nd</sup> hand or used oil.
7. Danny Villas, Environment Officer of Makati City: The problem is in implementing the plans. About 90-95% of LGUs are dependent on the internal revenue allotment (IRA) which is sometimes not enough to pay for salaries. How can we finance or get funds. Mr. Friedrich suggested government should tax the higher sulfur fuel. Germany phased out lead not by law but by incentives or disincentives. Mr. Sayeg on the other hand shared that taxes are never popular so we need more public information and awareness. Therefore there's a need for a funding mechanism to get the money down to the local level. Ms. Gozun said that specific tax on unleaded was lower than other fuel. If cleaner fuels are cheaper, people will buy it. Ms. Flora Santos added that the air quality management fund (AQMF) can be accessed by cities but problem with AQMF is that it is a special account which means it goes through the same budgetary process as the national account. There is a need to amend the law immediately. Mr. Sayeg asked if there is no money, why we can't pay for other initiatives that advocate better transport system aside from the flyover which is seen to be not effective. Ms. Gozun said if there is a will, there can be money for what the city needs. Mr. Villas reiterated the need to review the priorities of the city, how clean air programs can eventually be funded. Ms. Gozun suggested that there must be some incentives in the transport sector programs of the government.
8. Mr. Petersen shared that opacity as method of measurement is quite old. This method addresses visible smoke but the real problem is not the visible particles. The world is trying to come up with a better testing device. A diesel vehicle with a particulate trap is really long-term goal for the country. Why not pay for the best modern technology for vehicles to clean the air? It is widely observed that we have the best mobile technology nowadays.
9. Why it does not appeal to mayors the use of fewer cars? This question was posed by Mr. Haas for everyone's reflection.
10. Tricycle owners' association representative: 2-stroke is about 85% of total vehicles in Iloilo City. Roxas City too also has 2-stroke tricycles plying various routes. If the city removes the 2-stroke units many will lose jobs. If we phase out, what will we do with the 2-stroke units? LPG did not succeed as perceived.



Many vehicles got destroyed as told and it generates bad smell. Engine motor needs to be overhauled every 6 months. Mr. Manny Biona said LPG cannot work with 2-stroke; it will increase odor because LPG is wasted and goes to atmosphere then it will develop engine problems because it heat up engine. The option would be a shift to 4-stroke. Direct injection conversion can be explored but may not be widely available (maybe in a year or 2 year's time). Third option is repowering – that is to replace the 2-stroke engine with 4-stroke engine only. The above examples are technologies of intermediate solutions; thus electric vehicles or non-motorized systems are still the best option. Electric vehicles are not yet viable (cost P160,000). Projections show that in 2015 it may become viable. Microfinance program is needed. Mr. Friedrich said that the 2-stroke engine has higher HC. Ms. Gozun posted that under EST project, it would be worthy to tap the Road Users tax to fund tricycle emission reduction program. She further mentioned that PCA is studying this.

11. ICAJODA: Car owners are influential people, so the traffic people are afraid to apprehend them. They may be friends of the mayor. Members of driver's association can be called to a general meeting and to contribute to reducing pollution in the city. But the problem is that as much as our members want to repair and maintain the units, the problem really is poverty. The earnings are just enough for their family's needs and can no longer support for the proper engine maintenance. This part needs funding as the group also wanted to materialize key programs on clean air.
12. Mr. Manny Biona expressed that government has funds right now for jeepney drivers to shift to cleaner fuel. He mentioned of a P500M fund. Government already has guidelines but is in the stage of evaluating technologies that are being offered. Examples of technologies are full replacement of engine with LPG run and dual engine system.
13. There is a need to do a better job of documenting and disseminating good practices around the country.
14. Gasoline stations release HC which speed up ozone formation.
15. Infrastructure provision has a large impact on land use. Roads attract development; criteria of getting the cheapest location are not good enough.
16. Why don't we ask politicians if walking and public transport is their priority?
17. Congestion management and parking control measures are some key elements in transportation planning that links to clean air initiatives

**j. Elements of a Clean Air Action Plan**



Mr. Friedrich shared that fuel quality is critical in cleaning the air. Very low sulfur level enhances all catalyst technology performance. Some other benefits were also discussed. But in all these, he said that fuel quality must be controlled. Furthermore, he shared his thought on Vehicle Inspection and Maintenance Program taking into consideration his international experiences.

Mr. Petersen shared how to build a pollution control plan. He discussed its major components and some tips on how to make it work in actual implementation.

Mr. Sayeg for his part discussed the integration of land use plan to transport planning as key to better transport system that is sensitive to air quality in cities. He gave examples on infrastructure support facilities needed to enforce the principles of sustainable transport model. Finally he shared an example outline and template of a good local clean air action plan.

**k. Breakout Session**

Breakout session was done make the participants interact and discussed deeply local issues and challenges as per their experiences. Then, participants had to share possible recommended solutions to the earlier identified issues. Finally the group was made to identify training needs based on the discussions on the challenges and gaps in implementation.

The grouping is by island cluster (Luzon, Visayas, Mindanao), taking Metro Manila as a one separate group as it has its unique issues and challenges in relation to other regions. The grouping considered the current initiatives of the government to work for their own respective air sheds, thus the choice of members in the breakout session builds on this effort.

*Please see Annex for the breakout session outputs per island/regional group.*

**l. Group Output Presentation**

Each group appointed a reporter to deliver and share the group's output. After each presentation, questions were entertained to felicitate some clarifications and comments from other groups.

**m. Conclusion and Next Steps**

The moderator made a recapitulation of the entire proceedings highlighting key messages and reiterating major agreement made. Key next steps were also presented especially for pilot cities. The organizers (CAI-Asia, LCP and DENR) thank everyone for their presence in making the national workshop a success.

**n. Dinner reception**

To end a successful workshop and to facilitate networking, a dinner reception was hosted by GTZ.



## **V. Press Releases**

CAI-Asia Center prepared a press release which was provided to the Department of Environment and Natural Resources Public Information Office. In addition, several articles were published in the major newspapers about the event. Copies of the press release and the articles are attached.