

TA REG 6150 - Poverty and Environment Program
Air and Noise Pollution Reduction Strategies for Tricycle Sub-sector

PROJECT INTERIM REPORT

I. BACKGROUND

In 2004, the Asian Development Bank (ADB) extended a technical assistance to the City Government of Puerto Princesa (CGPP) under *TA 3921-PHI: Cleaner Production Promotion* to identify and recommend short-, medium- and long-term strategies to reduce air and noise pollution from tricycles. These strategies were then presented to the local stakeholders in a workshop in October 2004, wherein support and commitment have been expressed.

Given the legal, technical and financial soundness of these strategies, CGPP expressed its willingness to implement them and seek the assistance of ADB through its Poverty and Environment Program (PEP). The PEP, considering that it is a pilot intervention aiming to tackle air pollution issues to improve health and environment in the City, has provided support to CGPP and initiated the Air and Noise Pollution Reduction Strategies for Tricycle Sub-sector (the Project). The project also provides livelihood options to tricycle drivers, who are one of the poorest groups in the city.

The Project is intended to pilot test a number of air and noise pollution reduction strategies for tricycles as well as promote and develop alternative livelihood activities among tricycle drivers. The project activities are conducted through a participatory approach, which include, (i) improving tricycle emissions by strengthening the tricycle operators and drivers (TODA) members' technical and managerial knowledge base; (ii) establishment of a tricycle multipurpose fund for the purchase of cleaner technologies by and livelihood improvement of tricycle operators; and (iii) enhancing the city government's capacities in the enforcement of Clean Air Act (CAA), especially for roadside emission monitoring. The success of these pilot demonstration activities (PDA) and the lessons learned from the Project are intended for duplication and/or scaled up in other Asia-Pacific cities if implemented successfully.

To promote public participation and ownership of the Project, stakeholders' consultations are regularly conducted throughout the Project implementation phase. Possible collaborations with local NGOs, academe and private institutions are similarly explored and established in every aspect of Project implementation. A partnership with a micro-finance institution is forged to administer and manage the tricycle multi-purpose fund. To enhance the Project's financial sustainability, the Project also requires, in addition to the government's counterpart funding, tricycle drivers to provide financial contributions to the Project.

Given that CGPP's officials and personnel participated in the Project detailed design and implementation, it is expected that local capacities on policy planning, formulation and implementation will be strengthened. Similarly, the conduct of actual tailpipe emissions monitoring is anticipated to enhance the enforcement capacities of CGPP in undertaking roadside emission monitoring and smoke-belching apprehension. The lessons learned from the Project is intended to assist in the formulation and replication of ambient air and noise pollution reduction strategies in other cities in the Philippines.

II. PROJECT COMPONENTS

The Project will undertake a series of activities to achieve the following outputs: (i) financial assistance for the adoption of new and more efficient tricycle units, operation of livelihood activities among tricycle drivers, and construction of tricycle service centers and refilling stations; (ii) preventive maintenance and livelihood trainings for tricycle drivers; (iii) roadside emission monitoring trainings for LGU deputized personnel for effective CAA implementation; and (iv) stakeholders consultation and information dissemination. Specifically, the project activities include the following:

1. Preventive Maintenance Program – A number of tricycle drivers will be provided with basic knowledge and practices in conducting regular engine clean-up and maintenance. These drivers will later be trained to train their fellow drivers from their respective tricycle operators' and drivers' associations (TODAs). The program is expected to promote regular preventive maintenance among tricycle drivers, resulting to tailpipe air and noise pollution reduction.
2. Engine Technician Vocational Program –Selected tricycle drivers will be sponsored to undertake vocational courses for the purpose of becoming engine technicians. Through this, the drivers will be certified mechanics and be able to generate additional income as they provide repair and troubleshooting services to their fellow drivers.
3. Capacity Building for CAA Enforcement – Different trainings will be provided to selected local government personnel in order to strengthen their capacities in effectively implementing the Clean Air Act (CAA). These trainings will include data collection and analysis of ambient air quality, tailpipe air and noise emissions. Baseline data will also be established and regularly monitored to assess the air and noise quality in the City.
4. Tricycle Multi-purpose Fund Establishment – A tricycle multi-purpose fund will be established to provide financing assistance to tricycle drivers in the purchase and application of cleaner technologies, as well as in the development of alternative livelihood activities. The Fund, amounting to \$150,000 (30% shall be the counterpart contribution of CGPP), will be administered and managed by a micro-finance institution (MFI), which will develop eligibility criteria and screen applications for assistance.
5. Livelihood Development Program – With the implementation of the 50-50 Tricycle Traffic Ordinance, tricycle drivers are currently allowed to operate every other day from Monday until Saturday resulting to a three (3) operating days a week. To complement the scheme, engagement into other income-generating activities will be encouraged through the provision of financial assistance under the TRIKE Fund as well as livelihood development trainings in partnership with national government agencies, local training institutions, academe and NGOs.
6. Poverty Reduction Assessment – Benefits derived by the tricycle drivers on the provision of preventive maintenance trainings, involvement to alternative livelihood activities and access to the tricycle multi-purpose fund will be constantly monitored and assessed to determine the poverty reduction impact of the Project.

7. Dissemination of Lessons Learned – Experiences and lessons acquired during Project implementation will be documented and disseminated to local, national and international agencies through seminars, workshops, and website postings. This will serve as guide for possible replication of similar programs in the future.

III. PROJECT PROGRESS

A. Obtainment of Government Concurrence and Signing of Letter of Agreement

Following the approval of the PEP Steering Committee on 12 April 2005, a concurrence on a no-objection basis for Project implementation was requested from the Department of Environment and Natural Resources' (DENR). Such concurrence was obtained on 7 June 2005 and a Letter of Agreement (LOA) between ADB and CGPP was signed in early-September 2005.

B. Engagement of Domestic Consultants

Two (2) domestic consultants (an environment specialist and a financial specialist) were engaged in late-October 2005 to assist CGPP in the (i) preparation and design of the overall project management framework; (ii) formulation of monitoring and evaluation systems for the project activities; (iii) preparation of a disposal plan for the unserviceable tricycle units; (iv) identification and coordination with waste treatment and recycling facilities for proper disposal of unserviceable tricycle units; (v) conduct of field visits and preparation of project progress assessment; and (vi) preparation of project inception, interim and draft final reports.

C. Commencement of the Project with a Kick-Off Ceremony

The Project, dubbed as *Tricycle sa Kabuhayan at Ekolohiya* (TRIKE), formally commenced with a Kick-off ceremony on 18 November 2005 in Puerto Princesa City. Representatives from the Department of Science and Technology (DOST), Department of Trade and Industry (DTI), Philippine Council for Industry and Energy Research and Development (PCIERD), Technical Education and Skills Development Authority (TESDA), tricycle operators and drivers associations (TODAs), and local non-government organizations like Tagbalay Foundation and Environmental Legal Assistance Center (ELAC) witnessed the said event.



During the Project launching, a short Project background was presented while suggestions and commitments on effective implementation were solicited.

D. Establishment of the PMO and PAC

In mid-December 2005, the Project Management Office (PMO) was established in Puerto Princesa City in order to implement Project components and activities under CGPP's administration and management. The PMO is composed of personnel from the City Planning and Development Office (CPDO), Traffic Management Authority (TMA), City Environment and

Natural Resources Office (City ENRO), as well as the members of the Clean Air Management Board (CAMB). Its office is currently stationed at the TMA office.

Similarly, the members of the Project Advisory Council (PAC) was endorsed by CGPP to ADB in mid-January 2006 composed of representatives from DOST-Palawan, DOE-Energy Industry and Management Bureau, DTI-Palawan, PCIERD, EMB and Federation of Puerto Princesa City TODAs (FTODA) to provide guidance and assist in the implementation of the Project.

E. Conduct of Preventive Maintenance Training

In February 2006, the preventive maintenance training among tricycle drivers and operators was conducted with the assistance from the Technical Education and Skills Development Authority (TESDA) under Palawan Provincial Office. Briefings on the Project, CAA implementation, and significance of the training were provided by ADB and PMO, EMB and TESDA respectively at the onset. A short lecture on the basic differences between two- and four-stroke engines was similarly provided by TESDA.

After the lecture, the driver participants were divided into groups of 5-8 based on the type of their tricycle engine, in which a mechanic is assigned to provide clean-up procedures lecture accompanied by demonstration and hands-on training among them.



During the 3-hour demonstration and training, the participants were taught how to conduct the correct preventive maintenance or basic clean-up (disassembly of basic parts, clean-up, change oil and assembly) of tricycles. The mechanics, aided by Periodic Maintenance Training Manuals for Two- and Four-Stroke Engines, explained the basic tricycle engine parts and their uses, demonstrated the correct way of cleaning each of them in a step-by-step process, and supervised the participants in doing the same to their respective tricycles. Questions and clarifications were entertained to correct wrong perceptions and practices of some drivers.

Two sessions were held from 15-18 February 2006, one in the morning and another in the afternoon. After the demonstration and training, an assessment test was administered by TESDA to gauge the knowledge gained by the tricycle drivers. The training lasted for 4 days and about 161 tricycle drivers and operators were trained. Considering a total of 4,000 registered tricycle drivers and operators in the City, the TODAs requested that such training be extended and cover at least 10% or 400 of the population. Similar trainings in the future is requested to prioritize TODAs with high memberships and the choice of training location should consider the area in which these TODAs are clustered. It is targeted that such extension of training will be conducted in April 2006.

F. Conduct of Ambient Air Quality Management Training

In connection with the capacity building activities related to ambient air quality management, the Philippine Nuclear Research Institute (PNRI) is engaged in early-February 2006. The PNRI is expected to provide training with respect to the handling, operating and maintaining the air sampler, collecting air samples every 6 days, and analyzing the samples for the presence and concentration of particulate matters (PM₁₀) and lead (Pb).

As such, two (2) PNRI staff visited Puerto Princesa City in mid-February 2006 and made an evaluation of the required ambient air sampler and laboratory facilities. The high volume air sampler, model Kimoto LH 121, belongs to CGPP and intended for the monitoring of gas emissions in the sanitary landfill. However, CGPP committed the relocation and temporal use of such sampler in the central business district (CBD) in connection with ambient air monitoring activities under the Project. The Palawan Council for Sustainable Development (PCSD), on the other hand, committed in undertaking collaborative efforts on the handling, storage and analysis of air samples.



The PNRI made a presentation on the procedures and technologies involved in ambient air monitoring, sampling, and analysis. Initial assessments are made during the visit and recommendations are proposed. Follow up activities will be conducted, which are expected in April 2006, once the conditions set by PNRI to CGPP are met. Such activities will include demonstration and hands-on training in (i) setting up and operating the ambient air sampler, (ii) collecting air samples every 6 days, (iii) handling, storing and transporting air filters, and (iv) analyzing the air samples.

G. Conduct of Trainings on Roadside Emission Monitoring



Simultaneous with the preventive maintenance trainings for tricycle drivers, the EMB-Region IV-B (MIMAROPA) conducted trainings on roadside tricycle emission monitoring of air and noise pollution for nine (9) staff members of the City Environment and Natural Resources Office (CENRO) in mid-February 2006. Lectures, as well as demonstration and hands-on operation of tailpipe gas analyzer were conducted for the first two days while the trained CENRO personnel made actual measurements on the 3rd and 4th day.

Prior to the conduct of preventive maintenance training, tailpipe air and noise emissions were measured to a number of tricycles per group. The same tests were repeated to these tricycles after the training to determine the effect on emission levels.

H. TRIKE Fund Establishment

In March 2006, discussions on the establishment of TRIKE Fund were initiated and Letter of Agreement (LOA) between ADB, CGPP and the Negros Women for Tomorrow's Foundation (NWTF) was drafted. The LOA has been finalized and for signature while the TRIKE Fund management plan is being prepared.

I. Livelihood Development Training Among Tricycle Drivers

During the Project launching, the Department of Trade and Industry (DTI) signified collaboration in promoting livelihood development among tricycle drivers, as well as providing market linkages for their products. These efforts will be done consistent with DTI's one-town-one-product (OTOP) and other priority programs that would best serve markets in the province and neighboring communities. Potential for export markets will also be explored.

Similarly, the Department of Science and Technology (DOST) branch in Palawan committed to provide the required technologies and assist in the livelihood activities.

For this purpose, the PMO with the assistance of the consultants conducted needs assessment through surveys to adequately identify the training required by the tricycle drivers in livelihood development. The survey inquires of the type of income-generating activities that the drivers would like to venture given financial assistance, as well as their skills or lack thereof in engaging to such activity.

J. Information, Education and Communication Campaign

To increase the level of public awareness and understanding on the Project, information, education and communication (IEC) campaign materials like brochures were distributed. Visits were also made to TODA assemblies, wherein the Project and its activities were explained among the members. The PMO, through the assistance of the consultants clarified the difference of this Project with the past projects conducted by other agencies, and what to expect during the Project implementation.

IV. PROBLEMS ENCOUNTERED AND SOLUTIONS ADOPTED

On preventive maintenance training, the participation of drivers and operators were seriously affected by previous similar projects by other agencies and organizations. Lack of communications and unmet expectations from the previous programs resulted to doubts and pessimism. As such, only 11 out of 20 TODA officers met up with the Project team during activity planning. The Project team then visited each of the TODA around the City and conveyed the agreed procedures and modules on how the training would be conducted.

Initially, training was planned for 8 days and allocation for the participants in the training was distributed based on the memberships of each TODA. TODA presidents were requested to communicate this information to their members and secure the names of participants. Travel permits were then issued to participants, as the schedule of training is made consistent with their respective rest day based on the 50-50 Tricycle Traffic Ordinance.

However, on the 1st day of the training period, slow turnout was observed prompting the Project team to allow walk-in participants for the rest of the training duration. As a control mechanism, the Project team made prior checking of franchises and drivers' license of these participants. Their attendance was also communicated to their respective TODA presidents.

The Project team decided to cut the training period to 4 days for February and scheduled another 4 days in April 2006. This has been properly communicated to the TODA presidents in a meeting conducted to assess the outcome of the activity. The level of participation in each TODA was evaluated and TODAs with low participants were prioritized for the training scheduled in April 2006. Modifications on the approach were also suggested, in which the proximity of training venue to these TODAs will be considered so they will not contribute to traffic congestion in the central business district (CBD).

For ambient air monitoring, it was found out that the high volume air samplers have been in the sanitary landfill area since March 2005 and remains unutilized. Most of the accessories required to operate the sampler is missing, making it difficult for PNRI to commence training. The CGPP personnel assigned to the landfill are then requested to locate and make these parts available the soonest time possible.

For roadside monitoring and apprehension, the available noise level meter at the CGPP is found not calibrated. The EMB-MIMAROPA volunteered to take the equipment in Manila for calibration.

The human and technical capacities of CENRO personnel are found sufficient to administer CAA enforcement and perform roadside apprehension tasks. However, they would need to be deputized by the DOTC/LTO. As such, EMB-MIMAROPA committed to coordinate the matter with DOTC-Palawan.

On the establishment of TRIKE Fund, the selection took longer than expected as the short-listed candidates submitted their management proposals about two months after expressions of interests were solicited. Such delay in submission was primarily due to inappropriate timing as it was during Christmas season.

Corollary to the delays in TRIKE Fund establishment, TODA officers have expressed disappointment as they claimed that they have been waiting for the Fund's operationalization for quite some time already. It was revealed that the previous programs made reference to certain financial assistance for livelihood development in order to push for the implementation of the 50-50 Tricycle Traffic Ordinance in 2004. The Project Team therefore clarified the history of the TRIKE Program — from the conduct of tricycle sub-sector study in April 2004, development and presentation of strategic plans in October 2004, application for PEP funding to pilot these strategies in January 2005, PEP approval in April 2005, concurrence of national government and signing of the Letter of Agreement in September 2005, to Project commencement through a Kick-Off ceremony in November 2005. The Project Team clarified that it was only during the Kick-Off ceremony where the establishment of TRIKE Fund for livelihood development was mentioned for the first time. The Project Team further clarified that the activities involved in establishing the TRIKE Fund are sensitive that certain selection and engagement procedures need to be observed among MFIs. The TODA officers were then enlightened and reaffirmed their supports in pursuing the Project objectives.

On the Project management areas, the CGPP endorsed to ADB in January 2006 the composition the Project Advisory Council (PAC) made up of representatives from national agencies to provide overall guidance and review the implementation of Project activities.

V. PLANNED ACTIVITIES

The Project activities formally took off in November 2005 and the Project was expected to complete by April 2006, but was extended until December 2006. The following activities are therefore scheduled for implementation:

- a. Preventive Maintenance (Clean-Up) Training Program
 - 2nd Part of Preventive maintenance (Clean-Up) Training Program – 4th week of April 2006
 - Train the Trainer (TTT) program – May 2006
 - Training the TODA members – June to December 2006
- b. Engine Mechanics Program
 - Selection of drivers for the vocational program – May 2006
 - Engine Mechanics Vocational Course Program – May to July 2006
 - Operation of TODA service centers – August 2006
- c. CGPP Capacity-Building Program
 - Ambient Air Quality Management Training for CGPP – 1st week of May 2006
 - Ambient Air Quality Database establishment – 2nd week of May to November 2006
 - CAA enforcement exercises on actual roadside apprehension – 1st and 2nd weeks of May 2006
 - Deputization of CENRO personnel for CAA enforcement – 31 May 2006
 - Design of incentives and penalties for CAA compliance – June 2006
 - CGPP CAA enforcement on roadside apprehension – July to December 2006
- d. TRIKE Fund
 - TRIKE Fund establishment – April 2006
 - TRIKE Fund operationalization – May to November 2006
 - TRIKE Fund management capacity building for CGPP – October 2006
 - TRIKE Fund turn-over to CGPP – December 2006
- e. Livelihood Development among Tricycle Drivers
 - Needs assessment for livelihood development – May 2006
 - Conduct of trainings for livelihood activities – May to August 2006
 - Initiation of alternative livelihood activities among tricycle drivers – June 2006
 - Establishment of tricycle drivers' socio-economic database – June to November 2006

f. Poverty Impact Assessment

- Establishment of baseline data – May 2006
- Evaluation of benefits derived by tricycle drivers from clean-up training – June to November 2006
- Evaluation of benefits derived by tricycle drivers from alternative livelihood activities – June to November 2006

g. IEC campaigns

- Production and distribution of 2nd wave IEC materials – 4th week of April 2006
- Production and distribution of 3rd wave IEC materials – July 2006
- Production and distribution of 4th wave IEC materials – September 2006
- TRIKE Project Presentation to Better Air Quality (BAQ) Conference – September 2006

h. Project Management

- Preparation of bi-monthly reports for April and May, June and July, August and September, October and November 2006
- Preparation of draft exit strategy – 2nd week of November 2006
- Review and assessment of national policies regarding tricycle sub-sector – November 2006
- Preparation of draft final report – 1st week of December 2006
- Preparation of policy briefs and advocacies – 2nd week of December 2006
- Presentation of Project findings in a national workshop – 2nd week of December 2006
- Preparation of Project completion report – January 2007