

**Air and Noise Pollution Reduction for Tricycle Sub-sector:
A Proposal for the Poverty and Environment Program (PEP) Fund**

A. BASIC DATA	
1. Activity Title:	Air and Noise Pollution Reduction Strategies for Tricycle Sub-sector
2. ADB Project Officer:	Yue-Lang Feng, SEID, SERD
3. Requested Date:	April, 2005
4. Implementing Organization:	City Government of Puerto Princesa, Palawan
5. Types of Intervention:	Pilot interventions
6. Amount of Request:	US\$240,000
7. Period of Project:	1 year
8. Country/Province:	Philippines / Province of Palawan
B. DESCRIPTION OF IMPLEMENTING ORGANIZATION	
<p>Established on 1 January 1970, by virtue of the Republic Act 5906, the City government of Puerto Princesa (PP) is composed of 20 departments. Through the City Mayor's Office (CMO), the activities, plans and programs of the departments are coordinated and supervised, and integrated to meet overall development objectives of the City government.</p> <p>The Local Government Code of 1991 devolved the implementation of national policies to the local government units (LGUs) in provinces, cities and municipalities. The CMO of city government of PP thus launched a Clean Air Program (CAP) in mid-2004 in line with the implementation of Clean Air Act. The program aims to substantially reduce the air and noise pollution from transportation sector, especially the tricycle sub-sector. The proposed project will be integrated in the CAP and will be implemented by the CMO.</p> <p>The CMO will work closely with the Department of Environment and Natural Resources – Environmental Management Bureau (DENR-EMB) and the Department of Science and Technology – Philippine Council for Industry and Energy Research and Development (DOST-PCIERD), as the lessons learned from this project will be incorporated in the design and formulation of future air quality management and tricycle sub-sector policies for national applications.</p>	
C. PROPOSED PROJECT	
<p>1. Background and Rationale</p> <p>Air and noise pollution is impairing the health and welfare of a large portion of the population in most cities in the Philippines. Vehicles, particularly motorcycles¹ and tricycles², are considered as major sources of pollution. About 94% of these motorcycles and tricycles have two-stroke engines³ emitting fine particulate matter, which pose a danger to public health. Epidemiological studies revealed that fine particles have serious health effects including premature mortality and such nonfatal effects as respiratory symptoms, exacerbation of asthma, and changes in lung function.⁴ Noise coming from these vehicles is measured at a range of 90-97 decibels⁵ (dB), which is way beyond the tolerable limit of 77 dB. There is fairly consistent evidence that prolonged exposure to noise levels at or above 80 dB can cause deafness.⁶</p> <p>Despite of the health and environmental hazards that tricycles bring, most cities in the country continue to experience increase in tricycle population due to: (i) high unemployment and absence of alternative livelihood; (ii) limited road network; and (iii) increase in commuting population. What compounds the tricycle issue is the low income level of tricycle drivers. In a survey conducted by ADB⁷, majority (70%) of the drivers earn at most P350per day only, but usually spend P100 for boundary⁸, P120 for fuel and P30 for lubricant. With a daily net income of between P100-150, this leaves the tricycle drivers little interest to maintain their vehicles to reduce air or noise emissions. Therefore, while tricycle sub-sector is accounted as major contributor to pollution, its vulnerability to haphazard solutions should be noted and prudent considerations should be observed.</p> <p>The City of Puerto Princesa has a total population of about 170,000, in which 83% relies on tricycle as a means of public transportation. Since the economic activities in PP is predominantly agriculture, the high level of unemployment coupled with the absence of alternative livelihood persuades majority of the</p>	

households to resort on tricycle driving as source of livelihood. In the same survey, about 75% of the driver respondents belong to the productive age of 25-50 years, of which 53% have completed secondary education.

In 2004, about 2,824 for-hire tricycle units have secured franchise⁹ at the CMO and organized under 20 tricycle operators' and drivers' associations (TODAs¹⁰). Membership to such permits a tricycle driver to operate along the assigned TODA route, queue at the terminal for loading passengers, and receive financial assistance (mostly in the forms of lending and burial assistance).

A report on Community Greenhouse Gas Emissions for PP revealed that in 1996 alone, the tricycle sub-sector contributed about 153 metric tons of carbon dioxide¹¹. They are also major contributor to traffic congestion because of their numbers and constraint in speed. They are also perceived to be more accident prone than four-wheeled vehicles due to the instability of the sidecar¹² and the obstruction it brings as its height usually exceeds the driver's line of sight.

For this reason, the Puerto Princesa City government sought the assistance of ADB to identify possible strategies that could address the air and noise pollution from tricycles. This resulted in a small-scale technical assistance under the ADB TA 3921-PHI: *Cleaner Production Promotion*. A special study was then conducted and completed in November 2004 that identified, assessed and proposed various strategies that could address these concerns.¹³ These strategies were presented to and supported by the local stakeholders in a workshop in October 2004.

Given the legal, technical and financial soundness of these strategies, the City government expressed its willingness to implement them under the CAP. With the financial constraints being experienced by the City government, as a result of the national fiscal crisis, budget allocation for the implementation of these strategies however will have to compete with other priorities. An "Air and Noise Pollution Reduction for Tricycle Sub-sector" (the Project) is thus proposed to provide seed funds and pilot test the strategies.

Similarly, the DENR-EMB and DOST-PCIERD expressed their interests in integrating these strategies in national policies once concrete outcomes are obtained from the proposed project implementation. The two agencies recognize that LGUs' often lack of implementation experiences and capacities for environmental projects and are willing to support the project by providing technical and policy advices through an advisory committee and participating in workshops.

The proposed project will pilot test air emission reduction strategies for tricycles and livelihood support activities and monitor their effectiveness. The strategies will be duplicated or scaled up by other cities if implemented successfully. The proposed project activities will be undertaken through a participatory approach, which include, (i) improving tricycle emissions by strengthening the TODA members' technical and managerial knowledge base; (ii) establishment of a tricycle multipurpose fund (TMPF) 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, especially for roadside emission monitoring.

With enhanced technical and entrepreneurial knowledge, the tricycle drivers will have options to venture into different livelihood activities. This could also result in better maintenance of tricycle units thereby reducing pollution. Newer and more efficient tricycle units will also be introduced in the city.

To ensure technical soundness, the project will encourage the participation of and solicit commitments from tricycle operators and drivers, passengers, academe, private sector, non-government organizations (NGOs) and local agencies in finalizing and designing project activities. To enhance financial sustainability and ownership, the project will also require, in addition to the government's counterpart funding, beneficiaries' contributions to the multipurpose fund due to the potential project benefits of (i) increased income from alternative livelihood, and (ii) savings from fuel and lube consumption, as well as from maintenance costs.

Since the city government officials and personnel will participate in the project detailed design and implementation, it is expected that the local government's capacities on policy planning, formulation and implementation will be strengthened. Similarly, the conduct of actual tailpipe emissions monitoring will enhance the enforcement capacities of the LGU in undertaking roadside emission monitoring and smoke-belching apprehension. The lessons learned from the project will assist in the formulation and replication

of ambient air and noise pollution reduction strategies in other cities in the Philippines.

2. Objectives

The primary goal of the project is to reduce environmental and health hazards by addressing the air and noise pollution from tricycles, without impairing the income levels of the affected tricycle drivers and operators. Specifically, the project will: (i) mitigate air and noise pollution from tricycles by introducing pollution reduction technologies and practices; (ii) develop the livelihood and entrepreneurial skills of the tricycle drivers and operators; and (iii) enhance the capacities of deputized LGU personnel on CAA enforcement.

The target beneficiaries are tricycle drivers and operators, as well as local government personnel involved in environmental policy formulation and implementation.

3. Scope of Work/Description of Proposed Approaches

Scope of Work: The project will undertake a series of activities to achieve 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. Details of the corresponding activities are presented in Appendix 1.

Proposed Approaches: A tricycle multipurpose fund (TMPF) comprising the PEP funds from ADB and counterpart funds from PP City Government will be set up at the CMO or a micro-finance intermediary and administered by the CMO. The CMO will develop guidelines for the fund management and selection criteria to screen fund applications from tricycle operators and drivers. The CMO will also monitor the progress of the project and prepare progress reports and exit strategies for the multipurpose fund. An advisory committee chaired by the city mayor and represented by the city government, DENR, DOST, Department of Trade and Industry (DTI), Department of Transportation and Communications (DOTC), and local TODA federation will oversee the use of the funds and provide strategic guidance to the implementation of the project.

Individual consultants and a research institute will be engaged to (i) assist the CMO in designing the fund management guidelines and selection criteria; (ii) design and implement the vocational training courses; (iii) collaborate with waste treatment and recycling facilities for proper disposal of unserviceable tricycle units; (iv) design and produce IEC materials in promoting public understanding of the project; (v) conduct a training workshop for LGU personnel in improving their capability of CAA enforcement; (vi) carry out workshops in disseminating information about the fund uses and in promoting alternative livelihood activities; (vii) design a benefit monitoring and evaluation system; and (viii) prepare reports documenting the implementation progress, lessons learned and recommendations for future replications.

To narrow down the alternative livelihood activities, DOST has initiated a needs assessment to identify livelihood activities that are most applicable in PP based on the economic development and resources available in the region. The results of the needs assessment will be used as the basis for the implementation of the livelihood improvement subcomponent of the project.

Stakeholder cooperation and ownership are critical to the success of the project. During the project implementation, stakeholder consultation will be carried out among central government, LGUs, NGOs, private sector, and tricycle drivers/operators to agree on the project strategies and activities, and to provide feedback to the project implementation. Monitoring and evaluation systems will be developed to ensure that target beneficiaries take charge of this important process and operate them after the project's term.

During implementation, the CMO will promote the community's understanding of the project, encourage participation, and stimulate the sense of ownership among target beneficiaries. Needs assessment and feedback mechanisms will be undertaken in a transparent and participatory manner, employing appropriate participatory techniques. Involvement of these stakeholders will be ensured in every phase of the project cycle, especially in strengthening local capacities.

Counterpart contributions: The LGU is to provide office space, dedicated staff, vehicles, tailpipe emission measurement equipment to the project. Similarly, it will provide at least 20% contribution to the TMPF. The DENR is to provide technical support required in monitoring the air pollution level and tailpipe emissions, as well as in enhancing the technical capacity of local environmental personnel in doing the same. The DTI is to provide assistance in livelihood development and entrepreneurship while DOST is to provide the needed technology for the livelihood activities. Local NGOs are to provide livelihood trainings, legal assistance, and technical assistance in the administration of a multi-purpose fund. Private sector will assist in the conduct of emission tests, disposal of end-of-life (EOL) tricycle units, and repair and maintenance trainings. The driver beneficiaries will provide logistical support in information campaigns and assist in monitoring of project implementation within their respective TODAs.

4. Workplan and Reporting

The proposed PEP project will be implemented for 1 year, with an anticipated commencement date by April 2005. Detailed work plan is in Appendices 2 and 3. The CMO will produce (i) an inception report within the first month of the project implementation, (ii) a midterm report, and (iii) a draft final report including an exit strategy that suggests a sustainability mechanism for air and noise pollution reduction strategies for tricycle sector, as well as the management of the multi-purpose fund. The ADB and the advisory committee members will be provided with these reports.

5. Expected Output and Outcomes

The performance indicators for the inputs, activities, outputs, and outcomes are detailed in Appendix 4.

6. Project Evaluation and Information Dissemination

A monitoring and evaluation (M&E) system, inclusive of indicators, inputs, outputs and outcome, will be developed to determine the status and assess the progress of the project. Practical and simple systems of disseminating information will be developed as well, while periodic consultations with target beneficiaries will be conducted to immediately address any issues that might arise during the implementation. The lessons learned from the project will serve as inputs to national policy formulation in the tricycle sub-sector, and will be disseminated through policy advocacy papers and workshops.

7. Scope of Replication/Use in other DMCs

In the 4th Better Air Quality (BAQ) Conference held in December 2004 in Agra, India, the alarming contributions of two and three-wheelers to air and noise pollution has been discussed. However, no thorough identification, assessment and prioritization of all possible pollution reduction strategies have been presented, resulting to *ad hoc* strategy selection in some Asian cities. Similarly in the Philippines, the pressing problem of tricycle pollution is recognized but no comprehensive action is being taken both at the national and local levels because of strong lobbying from the sub-sector. Many tricycle drivers are pessimistic on implementing pollution reduction technologies and practices due to: (i) possible high costs involved, (ii) potential impacts on their level of income; (iii) difficulty of implementation.

There is much scope for replication of the lessons to be generated from the project, considering that the national government recognizes the importance of and is committed to developing comprehensive strategies on air and noise pollution reduction from tricycles. With greater understanding of the sub-sector, as well as its health and environmental impacts and improvement strategies, other cities in the country are also expected to initiate their respective tricycle pollution reduction strategies with due consideration of the vulnerability of the affected tricycle drivers/operators. The good practices that will emerge from the project will be useful to cities in other DMCs, where motorcycles and tricycles are common, such as Jakarta, among others.

D. COST ESTIMATE AND DISBURSEMENT SCHEDULE

The total cost of the project is US\$358,000, of which US\$240,000 (or 67% of the total cost) is to be financed through the Poverty and Environment Project Fund and US\$118,000 (or 33%) is counterpart funds from central and government-related agencies, LGU, private sector, local NGOs, and tricycle drivers and operators. Detailed cost breakdown is shown in Appendix 5.

E. PROPOSED PROJECT MANAGEMENT SYSTEM

The advisory committee will be established to compose of representatives from the city council, TODA federation, DENR, DOST, DTI, and DOTC. The committee will review and advise on the project implementation framework and related guidelines and oversee the efficiency and effectiveness of the project implementation.

The CMO will establish a Project Management Office (PMO), which will design the project implementation framework and related guidelines to facilitate the implementation and financial management of the project. The CMO will provide office space and staff for the PMO. The PMO will submit an inception report, an interim report, a draft final report and a final report detailing implementation activities, physical and financial accomplishments, problems encountered or anticipated, and actions to be taken to resolve the problems. The PMO will maintain records and accounts in accordance with sound accounting principles, and sufficiently disclose the use of funds under the project. It will consolidate the project accounts to be audited at the end of the Project by an independent auditor acceptable to ADB.

The PMO will collaborate with a micro-financing institute (MFI) in setting up a tricycle multi-purpose fund (TMPF). The interests and the terms of the multi-purpose fund will be determined after discussions with the PMO, and within the given scope and criteria approved by the advisory committee. The advisory committee will review the proposals for using the multi-purpose fund and the fund flow. The project consultants will check the use of the multi-purpose fund when they visit the project site on a regular basis. The exit strategy will include the mechanisms for ensuring the sustainability of the multi-purpose fund.

Two domestic consultants (an environment and a financial management specialists) will be engaged in the strategies design and implementation assessment, development of action plan, project implementation, monitoring and evaluation, and policy study and advocacy. Their Terms of Reference (TORs) are in Appendix 6. A research institute will be engaged to conduct vocational training and capacity building workshops, identify and engage waste recyclers and document decommissioning of old tricycles, as well as prepare IEC materials. The consultants and the research institute will be recruited using the ADB's *Guidelines on the Use of Consultants*.

Appendix 1
OUTPUTS AND ACTIVITIES

Output	Activity
(1) 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	<p>Activity 1.1. Coordinate with an MFI in setting up and functioning the tricycle multi-purpose fund</p> <p>Activity 1.2. Develop eligibility criteria to screen applications for financial assistance</p> <p>Activity 1.3. Develop the approach and terms in which financial assistance will be extended</p> <p>Activity 1.4. Monitor and evaluate the use of the tricycle multi-purpose fund</p> <p>Activity 1.5. Prepare status and progress reports on the use of the tricycle multi-purpose fund</p> <p>Activity 1.6. Prepare audited financial report of the tricycle multi-purpose fund</p> <p>Activity 1.7. Prepare a draft exit strategy framework</p>
(2) Preventive maintenance and livelihood trainings for tricycle drivers	<p>Activity 2.1. Engage a research institute to design the vocational course curriculum for preventive maintenance.</p> <p>Activity 2.2. Coordinate with TODAs on the selection of participating drivers to the said vocational course</p> <p>Activity 2.3. Conduct vocational course on engine repair and maintenance to selected tricycle drivers</p> <p>Activity 2.4. Purchase repair and maintenance tools for the trainees.</p> <p>Activity 2.5. Issue certification to tricycle technicians who completed the said vocational course.</p> <p>Activity 2.6. Forge partnership between certified tricycle technicians, private sector and PP City government in conducting preventive maintenance activities in every TODAs</p> <p>Activity 2.7. Develop and implement control mechanisms to ensure high participation among tricycle drivers and operators</p> <p>Activity 2.8. Conduct preventive maintenance trainings to TODA members</p> <p>Activity 2.9. Coordinate with DOST, DTI and the Technology and Livelihood Resource Center (TLRC) in the identification of alternative livelihood activities for tricycle drivers/operators</p> <p>Activity 2.10. Collaborate with TLRC and local NGOs in the conduct of livelihood trainings</p> <p>Activity 2.11. Collaborate with DTI in developing markets for the livelihood activity products</p> <p>Activity 2.12. Monitor and evaluate the benefits derived by the tricycle drivers from the trainings</p>
(3) Roadside emission monitoring trainings for LGU deputized personnel for effective CAA implementation	<p>Activity 3.1. Purchase of noise level meter</p> <p>Activity 3.2. Collaborate with DENR-EMB and DOTC on the conduct of trainings regarding the enforcement of CAA and emission testing.</p> <p>Activity 3.3. Gather baseline data on air and noise pollution</p> <p>Activity 3.4. Conduct regular road-side air and noise emission tests</p> <p>Activity 3.5. Design and implement local fines and penalties for non-compliant tricycle drivers</p>

(4) Stakeholder consultation and information dissemination	Activity 4.1. Collaborate with the academe, NGOs and private sector and develop IEC materials to promote public understanding of the project Activity 4.2. Design and implement IEC materials dissemination approaches Activity 4.3. Organize public consultations and workshops at the local level for disseminating information with respect to the status and progress of the project Activity 4.4. Formulate an exit strategy Activity 4.5. Prepare a policy advocacy paper Activity 4.6. Document lessons learned from the project and disseminate lessons learned from the project through seminar and publications
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Appendix 2 WORK PLAN

Output 1. 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

Activity	Time
Activity 1.1. Coordinate with an MFI in setting up and functioning the tricycle multi-purpose fund	Month 1-2
Activity 1.2. Develop eligibility criteria to screen applications for financial assistance	Month 2-3
Activity 1.3. Develop the approach and terms in which financial assistance will be extended	Month 2-3
Activity 1.4. Monitor and evaluate the use of the multi-purpose fund	Month 6 and beyond
Activity 1.5. Prepare status and progress reports on the use of the tricycle multi-purpose fund	Month 6 and beyond
Activity 1.6. Prepare audited financial report of the tricycle multi-purpose fund	Month 11
Activity 1.7. Prepare a draft exit strategy framework	Month 11

Output 2: Preventive maintenance and livelihood trainings for tricycle drivers

Activity	Time
Activity 2.1. Engage a research institute to design the vocational course curriculum for preventive maintenance.	Month 1
Activity 2.2. Coordinate with TODAs for the selection of participating drivers to the said vocational course	Month 1
Activity 2.3. Conduct vocational courses on engine repair and maintenance to selected tricycle drivers	Month 2-3
Activity 2.4. Purchase repair and maintenance tools for the trainees.	Month 2-3
Activity 2.5. Issue certification to tricycle technicians who completed the said vocational course.	Month 4
Activity 2.6. Forge partnership between certified tricycle technicians, private sector and PP City government in conducting preventive maintenance activities in every TODAs	Month 4
Activity 2.7. Develop and implement control mechanisms to ensure high participation among tricycle drivers and operators	Month 4
Activity 2.8. Conduct preventive maintenance trainings to TODA members	Month 5 and beyond
Activity 2.9. Coordinate with DOST, DTI and the Technology and Livelihood Resource Center (TLRC) in the identification of alternative livelihood activities for tricycle drivers/operators	Month 1
Activity 2.10. Collaborate with TLRC and local NGOs in the conduct of livelihood trainings	Month 2-3
Activity 2.11. Collaborate with DTI in developing markets for the livelihood activity products	Month 2-3
Activity 2.12. Monitor and evaluate the benefits derived by the tricycle drivers from the trainings	Month 4 and beyond

Output 3: Roadside emission monitoring trainings for LGU deputized personnel for effective CAA implementation

Activity	Time
Activity 3.1. Purchase of noise level meter	Month 1-2
Activity 3.2. Collaborate with DOST and DENR-EMB on the conduct of trainings regarding the use of gas analyzer and noise meter	Month 3-4
Activity 3.3. Gather baseline data on air and noise pollution	Month 3
Activity 3.4. Conduct regular road-side air and noise emission tests	Month 5 and beyond
Activity 3.5. Design and implement local fines and penalties for non-compliant tricycle drivers	Month 6 and beyond

Output 4: Stakeholder consultation and information dissemination

Activity	Time
Activity 4.1. Collaborate with the academe, NGOs and private sector in developing IEC materials to promote public understanding of the project	Month 1
Activity 4.2. Design and implement IEC materials dissemination approaches	Month 2 and beyond
Activity 4.3. Organize public consultations and workshops at the local level for disseminating information with respect to the status and progress of the project	Month 3, 6 and 12
Activity 4.4. Formulate an exit strategy	Month 11
Activity 4.5. Prepare a policy advocacy paper	Month 12
Activity 4.6. Document lessons learned from the project and disseminate lessons learned from the project through a seminar and publications	Month 12

Appendix 3 WORK PLAN IN CHART

Activity	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
1. 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												
1.1												
1.2												
1.3												
1.4												
1.5												
1.6												
1.7												
2. Preventive maintenance and livelihood trainings for tricycle drivers												
2.1												
2.2												
2.3												
2.4												
2.5												
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2.7												
2.8												
2.9												
2.10												
2.11												
2.12												
3. Roadside emission monitoring trainings for LGU deputized personnel for effective CAA implementation												
3.1												
3.2												
3.3												
3.4												
3.5												
4. Stakeholder consultation and information dissemination												
4.1												
4.2												
4.3												
4.4												
4.5												
4.6												

Note: please refer to Appendix 2 for the corresponding activities stated

Appendix 4
PERFORMANCE INDICATORS

	Expected Results	Indicator
Outcome	<ul style="list-style-type: none"> • Tricycle emissions reduced 	<ul style="list-style-type: none"> • Tailpipe emission test results
	<ul style="list-style-type: none"> • Tricycle drivers' livelihood improved 	<ul style="list-style-type: none"> • Number of tricycle drivers given livelihood assistance
	<ul style="list-style-type: none"> • CAA enforcement capabilities of LGU personnel enhance 	<ul style="list-style-type: none"> • Number of LGU personnel trained to conduct roadside emission monitoring
Outputs	<ul style="list-style-type: none"> • 2-stroke engine tricycles phased out • 4-stroke engine tricycles introduced • Tricycles are well maintained and meet emission standards • Fuel quality is ensured and provided through TODA tricycle service centers and refilling stations 	<ul style="list-style-type: none"> • Number of tricycle drivers given financial assistance • Number of old and inefficient tricycle units decommissioned and/or replaced by more efficient units • Number of tricycle drivers provided with new livelihood opportunities • Number of tricycles turned-over to recyclers • Number of service centers and refilling stations constructed
	<ul style="list-style-type: none"> • Tricycle drivers' livelihoods are changed and improved 	<ul style="list-style-type: none"> • Number of certified tricycle technicians • Increase in the income level of the tricycle drivers
	<ul style="list-style-type: none"> • Roadside emission monitoring is implemented by trained LGU deputized personnel 	<ul style="list-style-type: none"> • Number of LGU personnel trained in conducting roadside emission monitoring • Number of roadside emission tests conducted by deputized LGU personnel
	<ul style="list-style-type: none"> • Public awareness is raised 	<ul style="list-style-type: none"> • Number of stakeholder consultations held • Timely production and distribution of IEC materials
Activity	<ul style="list-style-type: none"> • Stakeholders consultation 	<ul style="list-style-type: none"> • Number of stakeholders involved and participated
	<ul style="list-style-type: none"> • Set up and operate a TMPF 	<ul style="list-style-type: none"> • A TMPF set up within a MFI or the PMO • Operational guidelines of the TMPF prepared • Funds disbursed • Funds reports submitted
	<ul style="list-style-type: none"> • An Advisory Committee is set up and operates 	<ul style="list-style-type: none"> • Members appointed • Meetings conducted to review and approve TMPF applications
	<ul style="list-style-type: none"> • Conduct of engine repair and maintenance vocational course 	<ul style="list-style-type: none"> • Number of tricycle drivers participated and completed the course
	<ul style="list-style-type: none"> • Conduct of livelihood trainings 	<ul style="list-style-type: none"> • Number of livelihood trainings conducted • Number of tricycle drivers trained in livelihood development
	<ul style="list-style-type: none"> • CAA implementation trainings for deputized LGU personnel 	<ul style="list-style-type: none"> • Number of deputized LGU personnel trained
	<ul style="list-style-type: none"> • Information dissemination 	<ul style="list-style-type: none"> • Information and education campaign materials prepared
Input	<ul style="list-style-type: none"> • Domestic consulting services for 6 person-months (environment and a financial management specialists) 	<ul style="list-style-type: none"> • Consultants hired, LGU staff appointed, equipment procured, logistical support provided by the TODAs and LGU • An Advisory Committee is set up

	<ul style="list-style-type: none">• 5 LGU full-time personnel to implement the project components• Equipment (gas analyzer, noise level meter and training tools)• In kind contribution of Advisory Committee members	
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**Appendix 5
COST ESTIMATES**

Item	Partner Contribution	Requested \$	Total	Disbursement
Consultants		60,000	60,000	M1-M12
Equipment	<p style="text-align: center;">5,000 (use of office equipment at the CPDO)</p> <p style="text-align: center;">1,000 (10% and 15% contributions from TODAs and LGUs, respectively on the purchase of preventive maintenance mobile training equipment and tools)</p> <p style="text-align: center;">5,000 (gas analyzer)</p>	<p style="text-align: center;">3,000 (75% PEP contribution on the purchase of preventive maintenance mobile training equipment and tools)</p> <p style="text-align: center;">1,000 (one noise level meter)</p> <p style="text-align: center;">10,000 (purchase of tools for tricycle drivers/operators participating in the vocational courses on engine repair and maintenance)</p>	25,000	M1-M12
Travel and allowance in project site (national government agencies participating in the project, resource persons)	5,000	3,000	8,000	M1-M12
Vocational courses, livelihood trainings, seminars, conferences, and other participatory techniques (inter-community exchanges, etc.)	10,000 (venues at local levels; extension services from related government agencies, private sector, and local NGOs)	5,000 (refreshment and materials)	15,000	M1-M12

Tricycle multi-purpose fund (200 drivers to receive flexible financing of \$200 for the purchase of new and more efficient motorcycle units, 100 drivers to offer tricycle franchise buy-back option at \$200 and assist in alternative livelihood, 10 TODAs to set up tricycle service centers/refilling stations at \$10,000)	30,000 (20% counterpart fund from local government)	120,000 (80% PEP contribution)	150,000	M1-M12
Ambient air quality monitoring (4 times)	20,000 DENR regional office contribute equipment	5,000 (laboratory analysis)	25,000	M1, M3, M6, M12
Information and education campaign (IEC) materials		10,000	10,000	M2-M12
Miscellaneous and administrative costs	30,000 (office space at CPDO, utilities, staff remuneration for 1 year) 12,000 (remuneration of designated personnel from DENR, DOST, DTI, TLRC, DOLE-TESDA, and DOTC)	1,500 (multi-purpose tricycle fund management cost)	43,500	M1-M12
Contingency (9%)		21,500	21,500	M1-M12
Total Expenses	118,000	240,000	358,000	

Appendix 6

OUTLINE TERMS OF REFERENCE FOR DOMESTIC CONSULTANTS

The Poverty and Environment project will be implemented over a period of 12 months. Two (2) domestic consultants (Environment and Financial Management Specialists) will be engaged in the conduct of the strategy design and implementation assessment, development of action plan, project implementation, monitoring and evaluation, and policy study and advocacy. A research institute will be engaged to conduct vocational training and capacity building workshops, identify and engage waste recyclers and document decommissioning of old tricycles, as well as prepare IEC materials.

1. Environment Specialist (3 person-months)

- (i) Design project management framework for the project;
- (ii) Provide expertise in the conduct of consultation meetings and workshop(s) with stakeholders for the effective implementation of the project;
- (iii) Assist in the formulation of monitoring and evaluation systems for the project activities;
- (iv) Provide expertise in the setting-up of a tricycle multi-purpose fund;
- (v) Coordinate with waste treatment and recycling facilities for proper disposal of unserviceable tricycle units;
- (vi) Assist in the design and production of IEC materials in promoting public understanding of the project
- (vii) Undertake field visits and prepare project progress assessment;
- (viii) Prepare a draft framework for an exit strategy;
- (ix) Review and assess the national policies regarding tricycle sub-sector
- (x) Provide pragmatic policy recommendations and conduct policy forums and dialogues with local and national policymakers on the findings of the study;
- (xi) Draft policy briefs that emanate from the study and design the advocacy activities for the dissemination of the study findings and for ensuring appropriate policy reforms and actions are undertaken; and
- (xii) Coordinate with a research institute to conduct training workshops for tricycle drivers and deputized LGU personnel

2. Financial Management Specialist (3 person-months)

- (i) Provide expertise in the conduct of consultation meetings and workshop(s) with stakeholders on setting up and for the effective implementation of the tricycle multi-purpose fund;
- (ii) Provide expertise in the formulation of monitoring and evaluation systems for the use and operation of tricycle multi-purpose fund;
- (iii) Provide financial expertise in the formulation of an exit strategy;
- (iv) Identify a local micro-finance intermediary and conduct a due diligence assessment for its appropriateness to manage the TMPF; and
- (v) Prepare draft TMPF management guidelines and present to the Advisory Committee for approval.

3. Research Institute

- (i) Conduct vocational training and capacity building workshops for the tricycle drivers/ operators;
- (ii) Develop and implement control mechanisms to ensure participation among tricycle drivers/operators;
- (iii) Identify and engage waste recyclers for the disposal of unserviceable tricycle units;
- (iv) Document decommissioning of old tricycles;
- (v) Prepare IEC materials; and
- (vi) Provide expertise in the formulation of an exit strategy.

Appendix 7

Notes and References

1. Motorcycles are two-wheeler vehicles like mopeds, scooters, etc. like that are used for personal transportation.
2. Tricycles are three-wheelers or motorcycles with sidecars that could carry between 3 to 10 passengers.
3. *Standards Development for Local Motorcycle/Tricycle Sector: 4th Quarter Progress Report*. 2003. University of the Philippines – National Center for Transportation Studies (UP-NCTS). UP Diliman: Quezon City.
4. Kojima, M. et. al.. 2000. *Improving Urban Air Quality in South Asia by Reducing Emissions from Two-Stroke Engine Vehicles*. World Bank: Washington.
5. Garcia, D. et. al. (2004). *Special Studies on the Development of Strategic Plan for the Air and Noise Pollution Reduction in the Tricycle Sub-sector*. ADB Consultant's Report. Manila.
6. Job RFS 1996, 'The influence of subjective reactions to noise on health effects of the noise', *Environmental International*, vol.22, no.1, pp.93-104
7. Surveys were conducted by ADB Consultants in April 2004 to determine the socio-economic profile of tricycle drivers for consideration in the development of strategic plans for the sub-sector. The outcome of this study was submitted to ADB in November 2004.
8. Boundary is a type of rent that the tricycle driver has to pay on a daily basis to the operator or owner for the use of tricycle unit.
9. Prior to operation, tricycle franchise is secured from the City Mayor's Office and renewed on a regular basis thereafter. Otherwise, it will be subject to fines and penalties. Franchise issuance is also a means for CMO to regulate the number of tricycles operating in the city.
10. The TODAs are duly registered at Securities and Exchange Commission (SEC) as cooperatives having tricycle operators and drivers with the same routes as members. Each TODA is governed by a set of officers, who then compose the TODA federation (TODA Fed) that represents the entire sub-sector in the city.
11. *Comprehensive Land Use Plan, 2001-2010: City of Puerto Princesa*. (2000).
12. Sidecar is a single-wheeled compartment attached to the motorcycle that serves as the passengers' seat.
13. A special study was conducted by ADB Consultants to identify, evaluate and recommend ambient air and noise pollution reduction strategies ranging from engine design, fuel and lubes quality and quantity, transport and traffic management. The outcome of this study was submitted to ADB in November 2004.