

ANNUAL PERFORMANCE REPORT

Year I Operations (Aug. 15, 2002 - Aug. 15, 2003)



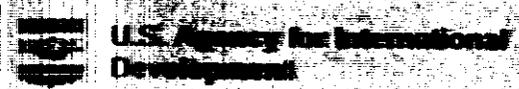
**Vehicle Emissions Control in Metro Manila
AID Cooperative Agreement No.
492-A-00-02-00013-00**

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Submitted to:



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EXECUTIVE SUMMARY

Infinite Progressions Corporation's Vehicle Emission Control Project has achieved its goals on its first year of operations. This is indicated by the following project milestones achieved during the period.

IPC has established its image and credibility as a reputable training center on Vehicle Emission Control among the public transport sector. A total of twenty-two (22) seminar workshops on Proper Preventive Vehicle Maintenance have been conducted vis-à-vis the seventeen (17) targeted for the year, training seven hundred and seventy four (774) Public Utility Vehicle (PUV) operators and drivers.

It has organized the **Champions in Reducing Air Pollution through Vehicle Emissions** (CRAVE), a coalition of 30-50 core group leaders who have been selected from among the trainees of each training session. A memorandum of agreement has been signed with CRAVE last August 15, 2003 significantly coinciding with the project's first anniversary celebration, confirming the group's strong commitment to the continued practice and propagation of proper preventive maintenance and compliance to vehicle emission standards.

It has partnered with four (4) of the six (6) biggest Public Utility Vehicle (PUV) federations in the country today, namely the PCDO-ACTO, FEJODAP, ALTODAP and INTERBOA and various public transport groups at the Alabang Terminal under the supervision of the Traffic and Environment Discipline Office of Muntinlupa City. Networking, collaborations and partnerships have likewise been established with other clean air concerned groups, to include the DENR, DOH, DBP, PCA, UP-CPH, PSME, DOTC, TED and DNS Shuttle Service.

Four (4) pilot Public Utility Jeepney (PUJ) units have successfully been repaired and refurbished by IPC. The first two (2) pilot units from PCDO-ACTO, a 12-year old jeepney owned by Mr. Victor Cornelio and a 19 year old jeepney owned by Mr. Melchor Estacio both showed remarkable improvements in vehicle emission test, operating efficiency, and cost benefit analysis after the repair. (Please refer to appendix 8 for Pilot Study Performance Results and Cost Benefit Analysis). Their testimonies have been incorporated in the seminar workshops conducted. Two (2) pilot units from FEJODAP have likewise been repaired and reconditioned and now in the process of post repair performance monitoring and evaluation. Repair and calibration of a pilot bus unit from RRCG is currently being done by IPC.

As a strategic initiative, IPC's Automotive Shop, now equipped with a calibrating machine and two (2) units each of opacity meter and five-gas analyzer is currently being transformed to function as a profit center beside being a training shop to subsidize costs of coalition activities and be able to efficiently expand IPC's vehicle emission control services

To ultimately achieve the objective of clean air through less vehicle emissions IPC intends to address the major issues and obstacles encountered. It plans to facilitate access of the transport groups to affordable loans to be able to repair and recondition their vehicles to meet emission standards and catalyze CRAVE coalition leaders as data source of PETC irregularities needed in advocating reforms in vehicle emission testing. DENR Secretary Elisea Gozun, in her press statement, expressed pride in reporting the improvement of air quality in Metro Manila. Data from Air Quality Monitoring System revealed a 15% drop in air pollution level. This is mainly attributed to the reduction in vehicle emissions due to the increase in the level of compliance of motorists particularly the public transportation. This only proves that vehicle emission control initiatives are effective and starting to make an impact in reducing air pollution.





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(August 15, 2002 – August 15, 2003)
Vehicle Emission Control Project in Metro Manila
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1. Introduction

On August 15, 2002, Infinite Progressions Corp (IPC), a private entity in the Philippines, entered into an agreement with the United States Agency for International Development (USAID) for the project "Root Cause Approach to Vehicle Emission Control in Metro Manila"

The project targets the reduction of vehicle emissions in Metro Manila by addressing the root cause - poorly maintained public utility vehicles with uncalibrated fuel injection pumps plying the roads of Metro Manila.

Specifically, the project aims to:

- a. propagate fuel combustion efficiency as the best preventive approach to control vehicle emissions by educating PUV operators on proper Preventive Maintenance and Calibration.
- b. provide technical assistance to public transport operators and drivers in developing and implementing appropriate and workable vehicle preventive maintenance program

2. Performance Narrative

Infinite Progression Corporation's vehicle Emission Control Project's first year operations has successfully achieved its goals and this can be attributed to its inherent capability to consistently yield significant achievements in the following areas: training / information and education campaign, automotive shop operations, coalition-building and networking, and pilot study.

Training / Information – Education and Communication

IPC has established its image as a reputable training center on Vehicle Emission Control among the public transport groups. Despite several scheduling hitches due to pre-occupation of major PUV partner federations with organizational, economic and transport issues like oil prices hikes & fare increases, a total of twenty-two (22) seminar workshops on Proper Preventive Vehicle Maintenance and Calibration have been conducted vis-a-vis the seventeen (17) targeted for the year, training a total of seven hundred seventy four (774) Public Utility Vehicle (PUV) operators and drivers. At least 2-3 core group leaders have been selected from among the trainees of each training session giving a total of fifty (50) champions to represent them in the coalition of leaders being formed to reach more motorists and ensure the continued propagation of PM and compliance to vehicle emission standards.

Post training evaluations conducted revealed that the seminar workshops have all been successful, with a high level of participant evaluation of the training and overall management. Seminar proceedings were properly documented as future





references (please refer to Appendix 3 for PM Training Program Design and Appendix 4 for the List of Seminar Workshops conducted during the period).

Coalition-Building and Networking

IPC has organized **Champions for Reducing Air Pollution from Vehicle Emissions**, a coalition of core group leaders among the four (4) major national public transport organizations, namely; PCDO-ACTO, FEJODAP, ALTODAP and INTERBOA and various public transport associations at Alabang Terminals under the supervision of Traffic Environment and Discipline Office of Muntinlupa City (TED). A Memorandum of Agreement with CRAVE has been signed to affirm their commitment to propagate preventive vehicle maintenance, comply with vehicle emission standards set by the government and strongly support the Philippine Clean Air Act. The said MOA signing ceremony coincided with the project's first anniversary celebrations held last August 15, 2003. As a manifestation of unity and involvement to the goal of the coalition, the presidents of the four (4) of the six (6) biggest public transport groups in the country and the Traffic and Environment Discipline (TED) Office of Muntinlupa City likewise signed the MOA, together with the USAID, DENR and DOTC (Please refer to Appendix 5 for Coalition Building Systems and Procedures and Appendix 6 for the Memorandum of Agreement with CRAVE and Four (4) Partner Federations).

IPC has made relevant organizations aware of and appreciate the project. Meetings with transport groups led to networking, collaborations and partnerships with other clean air concerned project organizations, to include the DENR, DOH, UP-CPH, DOTC, DBP, PSME, PCA, TED (Traffic and Environment Discipline Office of Muntinlupa City), and DNS Shuttle Service.

Automotive Shop Operations

The Automotive Shop has been equipped with an injection pump calibrating machine and two (2) units each of opacity meter and five-gas analyzer. As a strategic initiative, it is currently being transformed to not only function as an automotive training center but also as a profit center to fund coalition activities and be able to carry on and expand IPC's commitment to reduce air pollution through vehicle emission control. This is in line with the Company's philosophy of self-reliance and promoting such basic values as resourcefulness, self-help and empowerment in undertaking the project.

Pilot Study

IPC has successfully repaired and refurbished four (4) pilot units of Public Utility Jeepney (PUJ). The first two (2) pilot units from PCDO-ACTO, a 12-year-old jeepney owned by Mr. Victor Cornelio and a 19-year-old jeepney owned by Mr. Melchor Estacio both showed remarkable improvements in emission testing and substantial improvements in operating efficiency after the repair. The emission test result of Mr. Cornelio's jeepney, before the repair registered a very high T27% opacity which is over the tabulation set on the manual and much way beyond the emission standard of 2.5 K value set by the Clean Air Act. After the repair, the emission test resulted to an opacity reading of 10.8% at 2000 rpm and 10.0% at 2500 rpm which is well within the emission standard. Fuel consumption rate also significantly





improved to 18.84% at 5.36 kms. per liter from only 4.51 kms. per liter before. The same improvement has been noted on Mr. Estacio's jeepney. The emission test resulted to only 1.2% opacity (less than 0.1K Value) and the fuel consumption rate has become efficient with a result of 6.98 kms. per liter or a 29.5% improvement from the previous 5.39 kms. Per liter. Prior to the repair, his emission test failed at 28.2% opacity equivalent to 6.5K Value, way above the emission standard of 2.5K Value set in the Philippine Clean Air Act. Most importantly, both Messrs. Cornelio and Estacio account an incremental increase in monthly income of approximately ₱ 12,658.86 and ₱ 4,500.00 respectively as a result of increased number of day trips from 22 to 26 (breakdown of engine eliminated) and big savings realized from lower fuel and oil consumption. The cost benefit analysis and pilot study performance results proved that the repair and reconditioning works done by IPC to both units are cost effective with a payback period of 2.01 months for Mr. Cornelio and 10.84 months for Mr. Estacio. However, Mr. Estacio's payback period could be improved to 5.34 months if he is the driver at the same time of his jeepney like Mr. Cornelio.

Moreover, they are now very confident of plying the roads of Metro Manila without worry of being apprehended for smoke belching. They voluntarily testified to their fellow operators and drivers their satisfaction with the substantial improvements on the performance of their vehicles. Their testimonies have been incorporated in the seminar workshops as references to help justify and prove to the workshop participants the truth and accuracy of the claimed benefits of proper preventive vehicle maintenance. (please refer to Appendix 7 for Pilot Study on Vehicle Emission Control Systems and Procedures and Appendix 8 for Success Stories / Cost Benefit Analysis of the first 2 Pilot Studies from PCDO-ACTO).

The two pilot units from FEJODAP have likewise been repaired and reconditioned and now in the process of post repair data gathering and performance monitoring and evaluation.

3. Major Issues Challenges and Actions Taken

a. Financial constraints of PUV operators to repair and calibrate their vehicles to meet emission standards.

- Coordinated with DENR Sec. Gozun to help provide facilities for environmental loan affordable to operators and extended the deadline for 3 months the required CEC (Certificate of Emission Compliance) by PETC prior to registration for those PUV's failing the emission test. She responded positive and likewise requested DBP for funding.
- Coordinated with various banks to act as loan conduits but ₱ 100,000 per PUV environmental loans as high risk-low income business.
- Study the feasibility of PC initiating a prototype loan facility to address the financial constraint of operators to realize the much needed emission control loans as well as the need to coordinate with DENR, PETC, and other agencies to ensure that the loan facility is viable and sustainable.





b. Irregularities and inconsistencies in vehicle emission testing by PETC's.

- A survey on the emission standard compliance thru this coalition group has been conducted. Initial results revealed that 98.71% (153 out of 155 surveyed) have passed the emission test for registration of their vehicles without undergoing the actual emission testing via "NON-APPEARANCE". Only two (2) units were brought to actual emission testing prior to registration.
- We have committed at least 924 units of PUV's compliance to emission standard after 12 months of the project. However, the bewildering revelation of the emission testing practice based on the initial result of the survey for emission standard compliance is an eye-opener. We cannot achieve our objective of reducing air pollution by controlling vehicle emission if this present practice will not be put to stop. IPC deems it very urgent to revitalize the once started "Task Force" by the DOTC to monitor the integrity and the conduct of emission testing implementation with the active participation of Infinite Progressions Corporation and the assistance of the PUV Coalition Group members.

c. Various transport problems of major PUV federations, e.g. fare increases, oil price hikes, etc. that initially hampered the training program implementation.

- Tapped other transport associations near IPC office in Alabang in coordination with the Traffic, Environment and Discipline (TED) Office of Muntinlupa City and trained a total of 136 PUV operators and drivers from Alabang area

4. Milestones / Key Performance Indicators for Year 2 Operations

Quarter 1

- Operating Systems and Procedures for Vehicle Emission Testing and Calibration as a profit center formulated
- Value formation and Capability-Building and Upgrading Training Program for coalition leaders developed. Core training modules are as follows:
 - Value Formation
 - Project Management
 - Trainers' Training
- At least 1-2 training modules in Value Formation & Project Management Planning conducted training at least thirty (30) coalition leaders GRAVE (Champions for Reduction of Air Pollution from Vehicle Emissions)
- Coalition leaders Work Program drafted and initial implementation





- Project Study on Proposed Environmental Loan Program
- Handbook on Preventive Maintenance for PUV Operators & Drivers
- Specialized Technical Training Modules developed for mechanics, operators and drivers. Core training modules are as follows:
 - Engine Trouble - shooting
 - Engine Tune-up
- Regular at least once a month coalition meetings conducted
- Continuing networking and coordination activities conducted with project partners (PUV partner federations, other transport organizations, regulatory agencies, etc.)
- Tri-media exposure thru press releases, TV and radio guestings

Quarter 2

- Pilot test-run of the automotive shop as a profit center for vehicle emission testing and calibration.
- Accreditation as an LTO Vehicle Emission Testing Center acquired
- At least thirty (30) coalition leaders (CRAVE) trained on
 - Project Management (Implementation & Resource Mobilization)
 - Trainers' Skills Training
- Continued implementation of coalition work program and projects
 - Fund-raising activity to support coalition projects
 - PM Handbook for PUV Operators and Drivers
- At least 1-2 Technical Training Modules on Engine Trouble-shooting and Engine Tune-up conducted, training at least forty (40) mechanics, operators / drivers
- Regular at least once a month coalition meeting conducted for monitoring, brainstorming, planning.
- Continuing networking and coordination activities with project partners

Quarter 3

- Continuing shop operations as Profit Center for vehicle emission testing and calibration to support coalition activities





- Coalition projects being monitored and addressed through project management teams to ensure value and sustainability
- Preventive Maintenance continued to be propagated to more PUJ operators and drivers through group meetings, PM handbooks, audio seminars, other media
- At least 1-2 Technical Training Modules on Engine Trouble-shooting and Engine Tune-up conducted training at least forty (40) mechanics operators / drivers
- Regular monthly coalition meetings
- Continuing networking and coordination activities with project partners

Quarter 4

- Shop operations as Profit Center for vehicle emission testing and calibration documented and evaluated to determine its sustainability or expansion
- Functioning coalition of leaders (CRAVE) with clear organizational structure, systems and procedures, trained leaders and on-going projects to address identified priority issues and concerns
- Core Leadership and Capability-Building Training Program for coalition leaders completed. (Value Formation, Project Management and Trainers' Training)
- Conducted coalition project review and assessment / planning for sustainability and possible expansion
- Regular monthly coalition meetings conducted
- Sustained linkages with key networks and project partners (with at least four of the six biggest transport federations and other health, environmental, and regulatory agencies)





5. YEAR-END FINANCIAL REPORT – (1ST YEAR)

A. Date of Last Report	:	N / A
B. Date of Last Evaluation	:	N / A
C. Project Funding LOP Grant	:	Php 19,691,737.00
D. Counterpart	:	Php 6,368,285.00
E. Expenditure to date of Grant	:	Php 9,736,703.45
F. Counterpart	:	Php 3,217,692.27

G. HIGHLIGHTS

- ❖ Fund obligated by USAID have been approved from Php 13,802,945.00 to Php 19,691,737.00 and Agreement No. 492-A-00-02-00013-00 modified.
- ❖ Actual expenses incurred for the project amounting to Php 12,954,395.72 for the period ended August 15, 2003 of which Php 9,736,703.45 is USAID share and Php 3,217,692.27 is IPC shared cost (or 75% and 25% sharing respectively).
- ❖ Expenses incurred are within the approved budget.
- ❖ Annual Physical count was conducted on August 1, 2003 and no discrepancy found. All USAID equipment and furniture / fixture are with property tags.
- ❖ Attended Workshop on Recipient Contracted Audits on January 23-24, 2003 and "Echo Training" to IPC, USAID Staff.
- ❖ Submitted to USAID monthly expenditures for reimbursement and compliance reporting.





Report : Schedule of Percent Sharing
 Period Covered : August 7, 2002 - August 15, 2003

BUDGET ITEMS*	U S A I D				I P C			
	YEAR TO DATE	% of budget	LOP BUDGET	% of LOP Budget	YEAR TO DATE	% of budget	LOP BUDGET	% of LOP Budget
Information Management	900,967.47	50.05%	1,800,160.00	9.14%	237,084.25	3.72%	485,743.00	7.63%
Networking w/ PCA, NGO'S & gov't agencies & team bldg.	574,208.01	51.04%	1,124,909.00	5.71%	363,671.73	5.71%	745,098.00	11.70%
Coalition building	933,987.00	49.47%	1,887,958.00	9.59%	273,618.93	4.30%	560,596.00	8.80%
Program Development	1,878,242.96	51.89%	3,619,908.00	18.38%	1,028,421.62	16.15%	2,107,051.00	33.09%
Information, education & Communication activities (training & value formation)	3,064,117.22	48.63%	6,301,361.00	32.00%	839,518.79	13.18%	1,495,835.00	23.49%
Program monitoring & control	1,359,535.38	49.10%	2,768,832.00	14.06%	340,044.48	5.34%	696,690.00	10.94%
Sustaining Program w/ LTO	1,020,761.69	49.35%	2,068,609.00	10.50%	135,332.47	2.13%	277,272.00	4.35%
Recipient Contracted Audit	4,883.72	4.07%	120,000.00	0.61%	0.00	0.00%		
TOTAL	9,736,703.45	49.45%	19,691,737.00	100.00%	3,217,692.27	50.5%	6,368,285.00	100.00%

Summary of expenditures by account for the above activities are as follows:

Period covered : August 7, 2002 - August 15, 2003

PARTICULARS	USAID
Personnel & Fringe Benefits	2,481,579.97
Meeting, Training & Conference	462,944.43
Equipment / Furniture / Pilot Proj.	1,755,032.71
Transportation & Travel	392,618.04
Professional Fees	2,892,500.00
Leasehold/Office Improvement	719,042.91
Direct Office Supplies	87,473.06
Other Direct Cost:	
Communication	4,788.55
Rent	756,000.00
Custom Duties	2,137.00
Building Utilities & Maintenance	179,621.56
Miscellaneous	2,965.22
Total	9,736,703.45





Appendix 1: Year One Accomplishments Per Milestone / Key Performance Indicator

KEY PERFORMANCE INDICATORS/ MILESTONES	CRITICAL ACTIVITIES CONDUCTED	RESULTS	PROBLEMS ENCOUNTERED	ACTIONS TAKEN / TO BE TAKEN
Image and reputation of IPC developed as a reputable Vehicle Emission Control Center among transport groups	<ul style="list-style-type: none"> ○ Formulated Training Modules on Preventive Vehicle Maintenance ○ Developed appropriate visual training aids ○ Monitored and evaluated the conduct of the seminar workshops and continuously improved the training program 	<p>Accomplished IPC's image and reputation as an effective training center on Preventive Vehicle Maintenance was developed as indicated by the overwhelming enthusiasms and commitment of trainees to practice and propagate preventive vehicle maintenance after each training and numerous requests to conduct the same training to their respective organizations.</p>	None	None
Data base of IPC partner transport federations Masterlist of members	<ul style="list-style-type: none"> ○ Conducted consultation and coordination meetings with key transport organizations ○ Continuing data gathering with established project partners 	<p>Accomplished Completed the masterlist and profile of IPC's partner transport federations. Their directories, set of officers, and memberships are obtained after each seminar workshops.</p>	None	None
A Memorandum of Agreement (MOA) signed by (5) partner firms to facilitate the development of vehicle emission control project and propagation of vehicle emission control measures and proper preventive vehicle maintenance	<ul style="list-style-type: none"> ○ Coordinated the Coalition Summit / MOA signing event that coincided with the project's first anniversary ○ Facilitated the Coalition Summit and MOA Signing Ceremony 	<p>Accomplished The memorable Coalition Summit / MOA Signing Ceremony was held last August 15, 2003 coinciding with the project's first anniversary celebration. The event has been very successful, with IPC's project partners and supporters from both the government and the private sector (DENR, DOH, DOTC, Congress DNS, etc.) witnessing the MOA signing with four of the six biggest transport federations in the country, namely the PCDO-ACTO, FEJODAP, ALTODAP, INTERBOA and the CRAVE coalition leaders.</p>	None	None



Appendix 1: Year One Accomplishments Per Milestone / Key Performance Indicator

KEY PERFORMANCE INDICATORS/ MILESTONES	CRITICAL ACTIVITIES CONDUCTED	RESULTS	PROBLEMS ENCOUNTERED	ACTIONS TAKEN / TO BE TAKEN
<p>A functioning coalition core group of at least fifty (50) PUV leaders with program plan of action drafted and initially implemented</p>	<ul style="list-style-type: none"> ⇒ Identification and selection of coalition leaders ⇒ Conducted a series Leadership Orientation to coalition leaders ⇒ Planning sessions conducted with the coalition leaders to address issues and concerns of the transport sector that were identified during the seminar workshops. 	<p>Accomplished. The CRAVE (Champions for Reduction of Air Pollution from Vehicle Emissions) has been organized. The group has since its organization been meeting regularly twice a month (set every first and third Tuesday of the month), basically to brainstorm on what can be done to address issues and concerns of the transport sector that were brought out during the seminar workshops conducted.</p> <p>A survey in emission standard compliance thru this coalition group has been conducted. Initial results revealed that 98.71% (153 out of 155 surveyed) have passed the emission test for registration of their vehicles without undergoing the actual emission testing via "NON APPERANCE". Only two (2) units were brought to actual emission testing prior to registration.</p> <p>The coalition agreed to focus their efforts on resolving priority issues and concerns brought out during seminar workshops.</p>	<p>None.</p> <ul style="list-style-type: none"> ⇒ Inconsistencies and irregularities in the PETC vehicle emission testing. ⇒ Difficulties in acquiring reliable data on operators' actual compliance to vehicle emission standards. ⇒ Financial constraint of PUV drivers / operators to repair, calibrate and refurbish their vehicles to meet vehicles emission standards. 	<p>None.</p> <ul style="list-style-type: none"> ⇒ Organized CRAVE volunteers from IPC's trainees to help propagate PM and report irregularities in PETC implementations. ⇒ Joined and supported the task force formed by DOTC to monitor PETC performance ⇒ Coordinated w/ DENR Sec Gozun to help provide facilities for environmental loan affordable to operators. She responded positively and requested DBP for funding. DBP has now allocated 9Billion Pesos. ⇒ Coordinated w/ various banks to act as conduits but they consider PUV environmental loans as high risk-low income business.

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Appendix 1: Year One Accomplishments Per Milestone / Key Performance Indicator

KEY PERFORMANCE INDICATORS/ MILESTONES	CRITICAL ACTIVITIES CONDUCTED	RESULTS	PROBLEMS ENCOUNTERED	ACTIONS TAKEN / TO BE TAKEN
Results of the Pilot Study propagated to more PUV operators and mechanics and shared with other environmental groups.	<ul style="list-style-type: none"> ➤ Repaired and refurbished four (4) pilot public utility jeepney units ➤ Conducted pre and post repair monitoring and documentation ➤ Did Cost Benefit Analysis of the Pilot Repair and Refurbishing of the vehicles 	<p>The coalition signed a memorandum of agreement with us to affirm the coalition's commitment to propagate proper preventive vehicle maintenance, compliance to vehicle emission standards, and strong support to the Philippine Clean Air Act.</p>	<ul style="list-style-type: none"> ➤ The need to reach out to more motorists in propagating proper preventive vehicle maintenance as a very important vehicle emission control measure <p>None.</p>	<ul style="list-style-type: none"> ➤ Support CRAVE conduct echo seminars on PM to reach out to more PUV operators and drivers ➤ Come up with a handbook on PM to be disseminated to PUV operators / drivers ➤ Tri-Media exposure thru press releases, TV & radio guestings. <p>None.</p>
		<p>Accomplished Cost Benefit Analysis Report on the Pilot Study have been completed and integrated in the seminar workshops conducted. Testimonies of the first pilot study beneficiaries (Mr. Victor Cornelio, Vice President of PCDO-ACTO) and (Mr. Melchor Estacio, President of SATROPA) have likewise been part of the seminars workshop, testifying to the benefits of preventive vehicle maintenance</p>	<p>Pilot repair of one bus unit from St Rose Bus Company (INTERBOA) did not materialize due to inability to gather reliable baseline data despite repeated baseline monitoring conducted. Data gathered were erroneous and could not be used for the pilot study</p>	<p>Identified and tapped another bus company (RRCG) for the pilot study. Proposed repair and calibration of the pilot bus unit is currently being worked out with the bus operator / owner.</p>

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Appendix 1: Year One Accomplishments Per Milestone / Key Performance Indicator

KEY PERFORMANCE INDICATORS/ MILESTONES	CRITICAL ACTIVITIES CONDUCTED	RESULTS	PROBLEMS ENCOUNTERED	ACTIONS TAKEN / TO BE TAKEN
<p>At least seventeen (17) batches of trainings conducted for the whole year, benefiting a total of eight hundred thirty (830) Public Utility Vehicle (PUV) operators and drivers.</p>	<ul style="list-style-type: none"> ➤ Coordinated seminar preparations in consultation with participating PUV associations ➤ Handled administrative preparations for the seminars (scheduling, arrangements re venues, food & accommodations, preparation of training kits, presentation materials, etc) ➤ Facilitated the actual conduct of the seminar workshops ➤ Documented seminar proceedings. ➤ Conducted post seminar evaluations 	<p>Accomplished and exceeded in terms of the number of training sessions conducted. Despite scheduling hitches due to pre-occupation of PUV federations with economic, organizational and transport issues, IPC was able to conduct a total of twenty-two (22) training sessions, vis-à-vis the seventeen (17) targeted for the year. The seminar workshops trained a total of seven hundred seventy-seven (774) PUV operators and drivers, which is short of about fifty six (56) in terms of targeted number of trainees for the year.</p> <p>Seminar proceedings of all seminar workshops conducted have been properly documented, to include results of post-training evaluations.</p>	<p>The availability problem of federation PUV operators and drivers hampered the intended acceleration of the training program schedules to meet the target number of trainees.</p>	<p>Tapped other transport groups near our office in the Alabang area in coordination with the Traffic, Environment and Discipline Office of Muntinlupa City. Were able to train a total of 136 PUV operators and drivers at Alabang area.</p>



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Workplan
 Year 2 Operation
 IPC Vehicle Emission Control Project

Activities	Year 2 Operations - 2003-2004														Outputs / Milestones
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug		
1. Coalition Building and Development															
a. Identify training needs of coalition leaders															List of training needs of coalition leaders
b. Design capacity building training program															Training design for a Capability building program
c. Conduct training proper															At least 3 seminar workshops conducted
- Value Education Seminar															At least 30 coalition leaders trained
- Project Management															
- Trainers Training															
d. Review issues & conduct brainstorming and planning sessions w/ coalition leaders															Coalition work program drafted
e. Conduct at least once a month meeting w/ coalition leaders															At least once a month coalition meeting conducted
f. Technically assist in project implementation															Coalition work program implemented
g. Monitor and evaluate coalition activities															Minutes of meeting and seminar proceedings
2. Automotive Shop Operations															
a. Formulate operating systems & procedures for the shop as a "profit center" to support coalition activities															Formulated systems and procedures on how to run shop as profit center
b. Prepare staff to run the shop both as a training center and a "profit center" thru staff devt program															Shop personnel oriented and trained
c. Work out the accreditation of the shop as an LTO accredited vehicle emission testing center															LTO accreditation for vehicle emission testing
d. Pilot test run of the shop as a "profit center" for vehicle emission testing and calibration work.															Number of injectors/ injection pumps calibrated
- conduct vehicle emission testing for partner															Number of vehicles emission tested ()
- transporting equipment															
- provide service to pump and/or injector calibration services															
e. Document and evaluate shop operations performance															Evaluation report and sustainability / expansion plan/ proposal drafted
- establish sustainability or expansion															

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Workplan
 Year 2 Operations
 IPC Vehicle Emission Control Project

Activities	Year 2 Operations - 2003-2004												Outputs / Milestones	
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		Aug
3. Continuing Capability-building and Technical Training														
a. Administrative Preparations (scheduling, preparation of training kits, materials, arrangements re venue & food, etc.)														Training schedules, list of participants, venues and training kits prepared
b. Conduct seminar/workshop proper - Value Formation for coalition leaders - Project Management - Trainers' Training - Technical trainings on Engine Trouble shooting and Engine tune up														At least 30 coalition leaders trained and managing projects At least 40 mechanics/operators/drivers trained on technical engine troubleshooting and tune-up
c. Document seminar proceedings & conduct post training evaluation														Seminar proceedings of all trainings conducted
d. Conduct follow up technical assistance after training														At least 2 to 3 coalition projects implemented
4. Program Documentation, Evaluation and Dissemination														
a. Document minutes of meetings, seminar proceedings and results of other major project activities														Minutes of meeting, seminar proceedings and project reports completed
b. Tri-media activities thru press releases, TV and radio guestings														Press articles, T.V. and radio guestings done
c. Preparation and submission of reports Quarterly reports Annual Performance Report Project Sustainability Plan/Proposal														Quarterly reports, annual reports, project sustainability plan/proposals prepared





INFINITE PROGRESSIONS CORP.

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Training Design

**Seminar Workshop on Vehicle Emission
Control for Public Utility Vehicles (PUV)
Operators and Drivers**

Vehicle Emission Control Project



US Agency for International Development



SEMINAR WORKSHOP ON VEHICLE EMISSION CONTROL FOR PUBLIC UTILITY VEHICLES (PUV) OPERATORS AND DRIVERS

I. THE TRAINING DESIGN DESCRIPTION

This seminar workshop is designed to address the pollution problem by encouraging Public Utility Vehicles operators and drivers to adopt proper preventive maintenance as a core strategy in dealing effectively with vehicular pollution. Specifically, the training seeks to present an overview of the pollution problem and its effect on people's health, provide the participants practical knowledge and skill in preventive vehicle maintenance and elicit their commitment to promote, disseminate and propagate it.

The course outline shall have five (5) training modules and shall focus on the following content areas: An Overview of Pollution in the Philippines and Metro Manila, Its Impact on People's Health, Major Contributory Factors of Vehicle Emission as a Source of Pollution, Proper Preventive Vehicle Maintenance and Injector Pump Calibration and the Impact of Proper Preventive Vehicle Maintenance to Profitability. The training modules can be treated as separate training programs or as components of a training continuum. The specific combination of modules is dependent on the perceived needs and objectives of the targeted recipient transport associations.

The training methodologies shall be a combination of lecture-discussions, visual presentations, workshops, pilot study testimonials and plenary discussions. It shall be conducted by a pool of technical and training experts being headed by Engineer Wilfrido F. Nava, Infinite Progressions Corporation President and Managing Consultant, Ms. Lizette Fernandez, IPC Project Manager and Mr. Lito Joaquin, IPC Training Manager.

Engr. Nava has more than ten (10) years of automotive experience as Production and Engineering Manager of Ford Stamping Plant and more than twenty (20) years in engineering and environmental protection. He has the rare distinction of being honored twice by the Philippine Society of Mechanical Engineers (PSME) as Outstanding Mechanical Engineer of the Philippines, first in the year 1989 in the field of Manufacturing, and second in year 2000, in the field of Community service through Environmental Protection.

Ms. Fernandez is well experienced in Environmental Project Management. She has conducted detailed analysis of Metro Manila Transport System to finalize her thesis "Scheming Sustainable Transport for Cleaner Air Sustainable Strategies in Metro Manila" before she completed her Masters in Environmental Management from the University of Queensland in Australia in 2001.





Mr. Joaquin is a Materials Management Expert. He used to be the Regional Logistics Officer for Asia-Pacific of Siemens, Inc. He has undergone and conducted various trainings and seminars on Management Skills (domestic and international).

The training workshop is envisioned to serve as a springboard to strengthening coalitions of PUV Operators and Drivers Associations ensuring their sustained participation and involvement in vehicle emission control initiatives.

II. OVERALL TRAINING FRAMEWORK

INTRODUCTORY MODULE

- Opening ceremonies
- Introduction of Trainors / Participants
- Project Briefing
- Participants' Expectations
- Objectives and Mechanics of the Training Workshop

(Training Methodologies: Lecture Discussions, Evocative Techniques)

MODULE I - AN OVERVIEW OF AIR POLLUTION AND ITS IMPACT ON PEOPLE'S HEALTH

- Air Pollution Situation in the Philippines / Metro Manila
- Sources of Air Pollution
 - Vehicle Emissions
 - Other Sources
- Major Contributory Factors of Vehicle Emissions
 - Vehicle Efficiency
 - Road Conditions / Traffic Situation
 - Fuel Quality
 - Driving Habits
 - Vehicle Maintenance and Injector Pump Calibration
- Effect of Vehicular Emissions on People's Health
 - Vulnerable Population Groups
 - (jeepney drivers, bus drivers, commuters)
 - Frequency of Air Pollution Related Illnesses

(Training Methodologies: Lecture Discussions)





MODULE 2 - PREVENTIVE VEHICLE MAINTENANCE

- Importance of Proper Preventive Vehicle Maintenance
- Basics of Preventive Maintenance
- Proper Preventive Vehicle Maintenance
 - Day to Day Maintenance
 - Periodic Maintenance

(Training Methodologies: Lecture/Discussions/ Evocative Techniques)

MODULE 3 – INJECTOR PUMP CALIBRATION

- Meaning of Injector Pump Calibration
- Importance of Injector Pump Calibration
- Overview of How Injector Pump Calibration is Done

(Training Methodologies: Lecture/Discussions/ Evocative Techniques, Demonstrations)

MODULE 4 - IMPACT OF PROPER PREVENTIVE MAINTENANCE AND CALIBRATION ON PROFITABILITY

- Estimates of Costs and Benefits

PM and Engine Calibration	> Less Machine Downtime	> More Tires
	> Lower Maintenance Costs	> Increased Profit / Revenues
	> Lower Operating Costs	> Motivated
	> Higher Income for Drivers/ Conductors	
Employees		

(Training Methodologies: Lecture/Discussions, Testimonials from the Pilot Study Conducted)

MODULE 5 - ACTION PLANNING

- Issues and Problems Being Encountered
- Recommended Plans & Solutions
- Core Group Formation
- Formulation of Core Group's Own Environmental Code of Ethics

(Training Methodologies: Workshop / Discussions: Plenary Discussions)





III. TRAINING DESIGN

MODULE TITLE	OBJECTIVES	CONTENT AREAS	METHODOLOGIES	RESOURCE PERSONS	DURATION
Introduction	<ul style="list-style-type: none"> To provide the participants a brief background of the project and an overview of the training To give participants the opportunity to level expectations 	<ul style="list-style-type: none"> Opening ceremonies Introduction of trainers / participants Project briefing Participants' expectations Objectives and mechanics of the training workshop 	<p>Lecture/Discussions</p> <p>Visual presentation</p> <p>Evocative techniques</p>	Mr. Lito Joaquin	30 min
Overview of Air Pollution and Its Impact on People's Health	<ul style="list-style-type: none"> To provide the participants an overview of the air pollution situation and its impact on people's health To make the participants appreciate the significance and relevance of the program 	<ul style="list-style-type: none"> Air pollution situation in the Philippines / Metro Manila Sources of air pollution <ul style="list-style-type: none"> - Vehicle emissions - Other sources Major contributory 	<p>Lecture/Discussions</p> <p>Visual presentation</p>	Ms. Lizette Fernandez	1 hour





Maintenance and Calibration on Profitability	<p>significance of preventive maintenance and calibration as shown by its costs and benefits</p> <ul style="list-style-type: none"> To elicit participants' commitment to practice preventive maintenance 	<ul style="list-style-type: none"> Impact of proper preventive maintenance to operations and profitability 	<p>Visual presentation</p> <p>Testimonials from the pilot study conducted</p>		
MODULE TITLE	OBJECTIVES	CONTENT AREAS	METHODOLOGIES	RESOURCE PERSONS	DURATION
Action Planning	<ul style="list-style-type: none"> To enable the participants to come up with a realistic and workable plan of action that will sustain their initiative to practice and propagate preventive maintenance as key strategy to control vehicular emissions 	<ul style="list-style-type: none"> Issues and problems being encountered Recommended plans & solutions Core Group formation Formulation of Core Group's own environmental "Code of Ethics" 	<p>Workshop / Discussions</p> <p>Visual presentation</p> <p>Plenary discussions</p>	Mr. Lito Joaquin	2 hours





MODULE TITLE	OBJECTIVES	CONTENT AREAS	METHODOLOGIES	RESOURCE PERSONS	DURATION
Overview of Air Pollution. (continued)	<ul style="list-style-type: none"> To enable participants to identify and discuss their role as advocates of preventive maintenance in reducing vehicle emissions 	<ul style="list-style-type: none"> Vehicle efficiency Road conditions / traffic situation Fuel quality Driving habits Vehicle maintenance and engine calibration Effect of vehicular emissions on people's health Vulnerable population groups (jeepney drivers, bus drivers, commuters) Frequency of pollution related illnesses 			
Preventive Vehicle Maintenance	<ul style="list-style-type: none"> To enable participants to understand and appreciate the significance of the drive 	<ul style="list-style-type: none"> Importance of proper preventive vehicle maintenance 	Lecture/Discussions Visual presentation Evocative techniques	Engr. Willie Nava	1 hour





MODULE TITLE	OBJECTIVES	CONTENT AREAS	METHODOLOGIES	RESOURCE PERSONS	DURATION
	for preventive vehicle maintenance To provide the participants proper knowledge and practical skills in preventive	<ul style="list-style-type: none"> Basics of preventive maintenance Proper preventive vehicle maintenance 			
Preventive Vehicle.. (continued)	maintenance	<ul style="list-style-type: none"> Day to day maintenance Periodic maintenance 			
Injection Pump Calibration	<ul style="list-style-type: none"> To enable participants to understand the importance of injection pump calibration To provide the participants an overview of how injection pump calibration is done 	<ul style="list-style-type: none"> Meaning of injection pump calibration Importance of injection pump calibration Overview on how injection pump calibration is done 	Lecture/Discussions Visual presentation Evocative techniques Demonstrations	Mr. Gonzalo Almeida	45 min
Impact of Proper Preventive	<ul style="list-style-type: none"> To enable the participants to appreciate the 	<ul style="list-style-type: none"> Estimates of costs and benefits 	Lecture/Discussions	Engr. Willie Nava	1 hour



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IV. TRAINING DOCUMENTATION AND EVALUATION

The Seminar Workshop shall be documented and evaluated to determine the overall effectiveness of the training and to be able to identify its strengths and weaknesses. Evaluation shall focus on the following:

- Attainment of objectives
- Course content
(adequacy, relevance and clarity)
- Methodologies
(appropriateness and adequacy)
- Resource persons
(knowledge on subject matter, delivery and overall effectiveness)
- Materials and hand-outs
(adequacy, appropriateness and usefulness)
- Scheduling / Time allotment
- Training atmosphere
(venue, food, participants' involvement and other training facilities)
- Strengths and weaknesses



LIST OF SEMINARS CONDUCTED DURING THE PERIOD

	Date	Bus Operators	Bus Drivers	Jeepney Operators - Drivers	Venue	No. of Participants
1	01-14-03	-	St. Rose Transit	-	Terrace View Hill Carmona, Cavite	30
2	01-21-03	INTERBOA	-	-	Terrace View Hill Carmona, Cavite	13
3	01-27-03	-	-	PCDO-ACTO (SATROPA)	IMP Sea Breeze Tagig. Metro Mla.	47
4	02-07-03	-	-	PCDO-ACTO (MAPAPJODA)	CVJ Catering Marikina City	50
5	03-01-03	-	-	FEJODAP	P B S P Intramuros, Manila	40
6	03-28-03	-	-	PCDO-ACTO (San Juan)	Barrio Fiesta EDSA	27
7	04-23-03	-	-	PCDO-ACTO (Sta. Lucia-East)	Cabalen Restaurant (Sta Lucia-Cainta)	46
8	05-16-03	-	-	Various associations at Alabang Terminal	Starland Theme Park Muntinlupa City	41
9	05-19-03	-	-	PCDO-ACTO (SATROPA)	IMP Sea Breeze Tagig. Metro Mla.	46
10	05-21-03	-	-	PCDO-ACTO (MSMJODA)	RELC Marikina City	27
11	05-23-03	-	-	PCDO-ACTO (Quezon City)	Bacolod Chicken QC Memorial Circle	18
12	05-28-03	-	-	Various associations at Alabang Terminal	Starland Theme Park Muntinlupa City	21
13	05-30-03	-	-	FERCODA	Bacolod Chicken QC Memorial Circle	57
14	06-06-03	-	-	Various associations at Alabang Terminal	Starland Theme Park Muntinlupa City	21
15	06-07-03	-	-	FEJODAP	Covered Court Tondo, Manila	96
16	06-11-03	-	-	FERCODA (Proj. 2-3 associations)	Mila's Lechon Rest. Quezon City	35
17	06-17-03	-	-	Various associations at Alabang Terminal	Starland Theme Park Muntinlupa City	19



United States Agency for International Development



18	07-10-03	-	-	Various associations at Alabang Terminal	Starland Theme Park Muntinlupa City	22
19	07-11-03	-	-	PCDO-ACTO (MAPAPJODA)	CVJ Catering Marikina City	39
20	07-18-03	-	-	FERCODA (BASICANO-Caloocan)	NOVADECI Training Center	41
21	07-29-03	-	-	Various associations at Alabang Terminal	Starland Theme Park Muntinlupa City	12
22	08-01-03	-	-	ALTODAP (FERCODA) (SACODI/ROSEDOA)	Cabalen Restaurant (Sta Lucia-Cainta)	26
Total						774





**Core Group Formation and Coalition Building
Systems and Procedures
Vehicle Emission Control Project**

I. Objective

A. To develop a strong coalition of Public Utility Vehicle (PUV) operators and drivers' associations to:

1. Facilitate a more effective information sharing and communication system among them; and
2. Strengthen linkages to collectively address critical issues and concerns that affect them in ensuring their smooth transition and compliance to vehicle emission standards.

B. To train and develop a pool of at least 30 – 50 coalition members/leaders who shall primarily:

1. Act as prime movers in propagating Preventive Maintenance in their respective organizations; and
2. Perform liaison work in dealing with various transport and environmental organizations and institutions

II. Target Organization

Target organizations are all PUV operators and drivers' associations that have attended IPC's seminar workshop on Preventive Vehicle Maintenance to Control Vehicle Emission.

These are:

- | | |
|-------------|--------------|
| 1. INTERBOA | 5. PCDO-ACTO |
| 2. MMBOA | - SATROPA |
| 3. FEJODAP | - MAPAPJODA |
| 4. FERCODA | - PASADA |
| | - BAPODA |
| | - PASECTA |

III. Operating Procedures

A. Association Level





1. At the end of each seminar workshop on Preventive Maintenance, the participants will be asked to identify and select at least three (3) core group members from among them to be their representatives in the coalition.
2. Selection of core group representatives shall be confirmed officially in writing.
3. IPC Staff in charge shall meet with core group representatives to clarify their roles and responsibilities and the objectives of the coalition being organized.
4. Prepare a profile of core group members using the Intake form.
5. Review the group's seminar workshop output on issues in practicing Preventive Maintenance and proposed plans.
6. Identify priority issues to be resolved and develop a program of work
7. Meet with the big group (jeepney organization, federation, association or bus company) to present program of work developed.
8. Help finalize proposed program of work for approval by the big group and/or management (for bus companies).
9. Help tap resources for the implementation of plans.
10. Help implement the plan / project.
11. Evaluate implementation and results.

B. Coalition Level

1. Arrange and conduct coordination meetings of the different core group representatives:
 - a. Discuss and agree on the tasks of the core group / coalition and its operating policies.
 - b. Facilitate information sharing of each group's activities / project
 - c. Identify common issues / problems.
 - d. Come up with corresponding plan of action





Note: (Thrusts, objectives / tasks related to Vehicle Emission Control.)

2. Conduct brainstorming sessions with coalition leaders / members on opportunities in stored for them to uplift the transport sector's interests and welfare.
3. Determine training and technical assistance requirements of the group.
4. Design an appropriate training and technical assistance program for the core group.
5. Implement the training program and provide the technical assistance in implementation of plans to ensure compliance to vehicle emission control.

C. Expected Output

1. A strong coalition of PUV operators and drivers associations.
2. 30 – 50 trained and functioning coalition leaders that act as advocates in propagating Preventive Maintenance and performing liaison works among the transport groups and other environmental organizations.
3. Coalition projects (both short-term and long-term projects addressing issues / concerns of the members and uplift their welfare)
4. Resources tapped to support coalition projects.





KASUNDUAN NG PAGKAKAISA
(Memorandum of Agreement)



KAMI AY NANINIWALA:

UNA, Na hangarin ng sektor ng transportasyon, partikular na ang hanay ng mga tsuper at operators ng dyipni, bus, at iba pang sasakyang pampubliko, na itaas ang antas ng kanilang kabuhayan at linisin ang ating hangin para sa ikabubuti ng pamayanan;

PANGALAWA, Na mapapatupad ang nasabing mithiin sa pamamagitan ng *pagpapalaganap ng wastong pangangalaga ng sasakyan upang polusyon ay maiwasan*;

PANGATLO, Na ang kalutasan ng pampamayanang suliranin sa polusyon ay mapabibilis sa pamamagitan ng maayos na pag-uusap, ugnayan at pagtutulungan;

KUNG KAYA'T, BILANG PAGPAPATUNAY:

Ang Koalisyon ng mga Lider - CRAVE (*Champions for Reduction of Air Pollution from Vehicle Emissions*) mula sa apat (4) na pinakamalaking samahang pambansa ng mga tsuper at operator ng dyipni at bus sa buong Pilipinas, kasama na ang iba't-ibang samahan ng tsuper at operators ng pampublikong sasakyan sa Alabang, sa pakikipag-ugnayan ng Traffic Environment & Discipline Office ng Siyudad ng Muntinlupa at ng tanggapan ng *INFINITE PROGRESSIONS CORPORATION (IPC)*, sa pamamagitan ng proyektong "Root Cause Approach to Control Vehicle Emission" sa tulong ng *US AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)* ay nagkaisang mag-sanib at ipahayag sa pamamagitan ng kasunduang ito, ang sama-sama nitong pagkilos sa pagpapalaganap ng wastong pangangalaga ng sasakyan sa pamamagitan ng epektibo at malawakang impormasyon at edukasyon at komunikasyon (IEC) ukol dito, at tapat na pagpapatupad ng "vehicle emission testing", tungo sa katuparan ng mithiin itaas ang antas ng kabuhayan ng sektor ng transportasyon, maiwasan ang polusyon at mapalimis ang ating hangin. Kami ay nagpapahayag ng pagtataguyod sa layunin ng pagpapatupad ng "Philippine Clean Air Act" sa kapakinabangan ng nakararaming mamamayan.

SA KATOTOHANAN NG LAHAT NG ITO, kami ay lumagda sa ibaba nito, ngayong ika-labing lima (15) ng buwan ng Agosto, 2003.

PAMUNUAN NG KOALISYON NG MGA LIDER
(CRAVE - Champions for Reduction of Air Pollution from Vehicle Emissions)

VIRGILIO GIROY
Koalisyon Lider

MELCHOR ESTACIO
Koalisyon Lider

RONNIE BALBIDO
Koalisyon Lider

WILLIELMO LOPEZ
Koalisyon Lider

JAIME AWA, SR.
Koalisyon Lider

REYNALDO
MASALUNGA
Koalisyon Lider

MODESTO ORCINO
Koalisyon Lider

VICTOR CORNELIO
Koalisyon Lider

KAAGAPAY SA ADHIKAIN NG KASUNDUANG ITO

EFREN DE LUNA
Presidente, PCDO-ACTO

ZENaida MARANAN
Presidente, FEJODAP

BOY VARGAS
Presidente, A.TODAP

ALADIN SIMUNDAC
Presidente, INTERBOA

ALEXANDER MOLDEZ
Chief, TED Muntinlupa

WILFRIDO F. NAVA
IPC - President & Managing Consultant

NAGPAPATIBAY SA KASUNDUAN

LAURIE DE FREESE
USAID Deputy Chief
Office of Environmental Management

ELISEA G. GOZON
Secretary
Dept. of Environmental and Natural Resources

ARTURO J. VALDEZ
Under Secretary
Dept. of Transportation and Communications



**PILOT STUDY ON VEHICLE EMISSION CONTROL
Systems and Procedures
Vehicle Emission Control Project**

I. OBJECTIVES OF THE PILOT STUDY

- Demonstrate energy efficiency thru proper preventive vehicle maintenance as the best approach to vehicle emission control
- Prove that proper preventive maintenance and calibration costs are actually returnable investments and not expenses
- Come up with Public Utility Vehicle (PUV) operators and drivers' true to life samples and testimonies on the truth and accuracy of the claimed benefits of proper preventive maintenance and calibration, to be integrated into IPC's Seminar Workshops for partner PUV operators and drivers associations.

II. TARGET GROUPS/ VEHICLE UNITS

- a. INTERBOA - two (2) bus units of St. Rose Bus Company
- b. PCDO-ACTO - three (3) jeepneys

III. DURATION OF THE STUDY

Four (4) months (November, 2002 - February, 2003)

IV. THE OPERATING PROCEDURES

The procedure starts upon identification and selection of the model vehicle units and PUV operators for the pilot study and ends with the documentation and dissemination of the result of the study proving the truth and accuracy of the claimed benefits of Proper Preventive Maintenance of Vehicles.

1. Identify and select model public utility vehicles and partner PUV operators for the Pilot study.
2. Meet with the PUV operators of the chosen pilot units to explain about the objectives and mechanics of the Pilot Study.
3. Prepare and sign a Letter of Understanding (LOU) confirming the partnership between Infinite Progressions Corporation (IPC) and PUV Operators/Organizations in the project and Pilot Study





4. Check up and assess the conditions of the pilot units to determine the kind of repair work to be done on the units before baseline monitoring is conducted.
5. See to it that the parts of the units needed to monitor performance of the vehicles prior to preventive maintenance activities and calibration are all functioning.
6. Conduct baseline monitoring of the units to gather baseline data / information on the performance of the vehicles prior to the PM servicing and calibration (if done)
7. Recondition and calibrate, if needed, the fuel injector of the vehicles for the pilot study.
8. Monitor the performance of the pilot vehicles in terms of fuel and lubricant consumption, emission capacity, reduction in the number of breakdowns, maintenance costs, increase in drivers' income and profitability.
9. Document critical processes and results using standard monitoring and documentation tools and forms.
10. Analyze findings of the study. Discuss them with concerned PUV operators and drivers.
11. Package pilot study hands-on testimonies of PUV operators and drivers as training references and tools in motivating PUV operators and drivers to practice, propagate and institutionalize Proper Preventive Vehicle Maintenance as a core strategy in vehicle emission control.
12. Disseminate Pilot Study results to PUV Operators and Drivers Associations as well as other environmental organizations, thru seminar workshops, institutional presentations / guestings and tri-media exposure (press releases, TV and radio guestings)



**INFINITE PROGRESSIONS CORPORATION**Unit 402-403 Alabang Corporate Center
Km. 25 - West Service Road, Alabang, Muntinlupa, Manila**Pilot Study Cost Benefit Analysis**Pilot Unit No. 1 (MAPAPJODA - PCDO-ACTO)
(Public Utility Jeepney with Plate No. NYD - 155)**Operator/Driver: Victor I. Cornelio**

1. Total repair/rehabilitation cost of the pilot unit	PhP	36,838.00
2. Tangible benefits after the repair		
➤ Additional monthly income resulting from the increase of daily earnings (PhP 250.00 x 22 days)	PhP	5,500.00
➤ Additional 4 days due to the maximum no. of tripdays per month plus the elimination of downtimes (PhP 750.00 x 4 days)		3,000.00
➤ Savings from the reduction of monthly diesel fuel consumption (PhP 56.11 x 26 days)		1,458.86
➤ Savings from the reduction in oil consumption (PhP 399.75 - PhP 99.75)		300.00
➤ Savings in the elimination of cost of monthly breakdown of the unit (PhP 1,200.00 x 2 per month)		2,400.00
3. Total incremental income per month	PhP	<u>12,658.86</u>
4. Total projected incremental income per year	PhP	<u>151,906.32</u>

Payback period approx **2.91 months**

5. Other Intangible Benefits

- Compliance to Clean Air Act / Reduction in vehicle emission
- Longer useful life of the vehicle
- Avoid penalties due to smoke belching and other traffic violations
- Health benefits
- Peace of mind for vehicle reliability and assured daily source of income

*Note Please see attached Pilot Study Data for reference*Appendix - 8



Project Update	:	Root Cause Approach To Vehicle Emissions Control in Metro Manila
Contractor	:	Infinite Progressions Corporation (IPC)
Mechanism	:	Cooperative Agreement
Report	:	<u>Success Story - II</u>
Date	:	June 25, 2003

"I HAVE NEVER IMAGINED THIS CAN HAPPEN TO ME"

"I have never imagined this can happen to me". These were the exact words that Mr. Melchor J. Estacio of PCDO-ACTO uttered in his testimony during the seminar for Vehicle Emission Control last May 19, 2003 conducted by Infinite Progressions Corporation for Samahang Tsuper Rotang Pasig (SATROPA), a federation under PCDO-ACTO. Mr. Estacio, like Mr. Cornelio, also of PCDO-ACTO, is one of the lucky beneficiaries of IPC and USAID's Pilot Study Project (free of charge repair and overhauling of engine). His 19-year old surplus jeepney has undergone a baseline monitoring for 2 weeks prior to the actual repair works and engine overhauling performed by IPC. Baseline data revealed the very poor performance of his jeepney noting an average of 2 breakdowns in a month and a high fuel consumption rate of 5.39 kms. per liter. His emission test also failed with a result of 28.2% Opacity or an equivalent of 6.5 K Value over the emission standard of 2.5K Value set in the Philippine Clean Air Act.



Mr. Melchor Estacio receives the key of his 19-year old refurbished jeepney, from Mr. Nava with glasses, during its turn-over after the repair.

A very big improvement in the performance of his jeepney was noted when the post-repair monitoring was conducted. The emission test resulted to only 1.2% opacity (less than 0.1 K Value), the fuel consumption rate has become efficient with a result of 6.98 kms. per liter or a 29.5% improvement and no major breakdown has been experienced so far as of this writing.

Mr. Estacio, or "Ka Encho" as he is fondly called in his native town of Taguig, was born on August 18, 1949. He is married to Aling Divina and blessed with three children and two grandchildren. He was able to acquire the first of his three jeepneys in 1984 when he came back from working in Saudi Arabia for nine years. Right now, he's a fulltime jeepney operator and the president of SATROPA, consisting of about 7,000 membership.

During his testimony, he expressed his sincere gratitude to IPC and USAID for the opportunity that has been given him, putting emphasis on the importance of properly maintaining their vehicles and its economic benefits for the operators as well as the drivers. He enjoined everybody to continue to promote and propagate Preventive Maintenance as the only solution to control vehicle emission.

The Cost Benefit Analysis and Pilot Study Performance Results proved that the repair and reconditioning works done by IPC on Ka Encho's passenger jeepney are cost-effective with a payback period of 10.84 months. This could be further improved to a payback period of 5.34 months if he is the operator and the driver at the same time like Ka Vic.

Nevertheless, he now enjoys peace of mind for vehicle reliability and longer useful life of the unit.

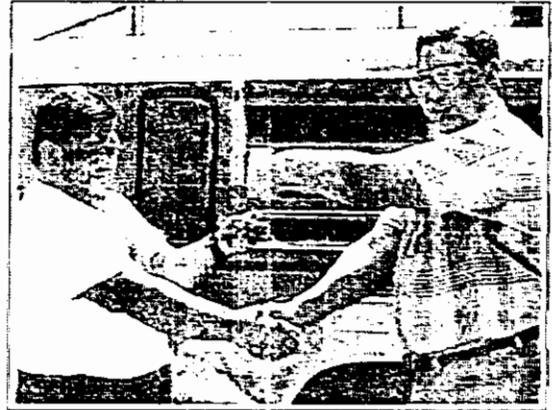


Project Update : **Root Cause Approach To Vehicle Emissions Control in Metro Manila**
Contractor : Infinite Progressions Corporation (IPC)
Mechanism : Cooperative Agreement
Report : Success Story I
Date : June 25, 2003

RECONDITIONED 12-YEAR OLD SURPLUS JEEPNEY BEATS EMISSION STANDARD

Mr. Victor I. Cornelio, Vice President of the Philippine Confederation of Drivers' Organizations – Alliance of Concerned Transport Organization (PCDO-ACTO), is one of the four lucky beneficiaries of a pilot study being conducted by Infinite Progressions Corporation (IPC) and the United States Agency for International Development (USAID). It seeks to prove to the public transport sector that practicing Preventive Maintenance will not only help control vehicle emissions but would also increase their income resulting from less fuel and oil consumption and less breakdown.

Mr. Cornelio, also known as "Ka Vic", resides in Manggahan, Pasig City. He is married to Erlinda and blessed with two (2) sons. Having to support their basic needs and education of their children, "Ka Vic" bought a passenger jeepney to augment their earnings. After his retirement in 1991, he bought another jeepney, but had to sell the first one. Since then, the remaining jeepney became their main source of living. For twelve (12) years now, he has been a driver-operator to support his family.



Engr. Willy Nava (wearing glasses), IPC President, congratulates Mr. Cornelio during the turn-over of his refurbished jeepney.

Ka Vic in his testimonies to fellow driver - operators considers

his being selected as a pilot study beneficiary of the IPC - USAID

Vehicle Emission Control Project as "isang hulong ng langit" or "a gift from heaven". His twelve (12) year old jeepney as a pilot study unit, underwent a series of baseline monitoring and assessment prior to the unit's repair and reconditioning works which included parts replacement and installation, injection pump calibration and major engine overhaul by IPC, which amounted to a total of approximately ₱36,838.00, all shouldered by the project.

Ka Vic has voluntarily testified his satisfaction with the remarkable improvements on the performance of his jeepney after the IPC repair. Before the repair, his jeepney was in total bad shape and condition experiencing an average of 2 breakdowns per month with a high fuel consumption of only 4.51 kms. per liter and has to add 1 liter on oil every week. The emission test result was very high at 72.7 % Opacity (unknown K value), which is way beyond the emission standard set by the Clean Air Act. After the repair, emission test registered an opacity reading of 13.8 % (1.9K value) which is within the standard of 2.5 K value set by the government. Fuel consumption rate has improved to 18.84% at 5.36 kms. per liter. So far his jeepney has not experienced any major breakdown.

More importantly, Ka Vic now accounts for a substantial incremental increase in income of approximately ₱12,658.86 per month as a driver-operator. From a daily ₱500.00 income before the repair, he now earns an average of ₱750.00 a day, resulting from the additional number of trips per day. He can now also maximize the number of tripdays from 22 to 26 per month after the repair due to absence of breakdown. Cost of diesel consumption has likewise decreased from an average of ₱204.02 per day to ₱297.91 (a saving of ₱56.11 per day or ₱1,458.86 a month). Moreover, Ka Vic no longer adds oil every week which he used to do prior to the repair, hence now saves approximately four (4) cans of oil every month, amounting to ₱300.00. Since breakdowns of his jeepney were eliminated, Ka Vic furthermore saves approximately ₱2,400 per month.

The Cost Benefit Analysis and Pilot Study Performance Results undoubtedly proved that the repair and reconditioning works done by IPC on Ka Vic's passenger jeepney are cost-effective with a payback period of only 2.91 months (see attached page).

Ka Victor now enjoys peace of mind for vehicle reliability and longer useful life of the unit. With the incremental income, he feels confident of a better life for his family.

Pilot Study Data Comparison for Ka Encho's jeepney:

Particulars	Before Repair by IPC		After Repair by IPC	
Compression Pressure per cylinder	#1 – 100 psi #2 – 120 psi	#3 – 200 psi #4 – 120 psi	#1 – 383 psi #2 – 383 psi	#3 – 398 psi #4 – 426 psi
Engine Oil Pressure	Idling (hot) – 40 psi Hi-speed (hot) 60 psi		Idling (not) – 45 psi Hi-speed (hot) 70 psi	
Emission Test Result	"Failed" 28.2% Opacity (6.5 K Value)		"Passed" 1.2% Opacity (less 0.1 K Value)	
Ave. no. of tnps per day	11.47		11.50	
Ave. no. of tripdays per month	22		26	
Ave. diesel fuel consumption rate	5.39 kms. per liter		5.98 kms. per liter	
Ave. diesel cons. per day (liters)	23.19		17.91	
Ave. diesel cons. per month (liters)	556.56		465.66	
Ave. oil cons. per month (liters)	5.33		1.33	
Ave. no. of breakdown per month	2		None to date	

Cost / Benefit:

Particulars	Before Repair by IPC	After Repair by IPC	Difference / Savings
Fixed Income (Boundary System)	450.00	450.00	0.00
Ave. cost of diesel cons. per day	389.45	277.61	81.84
Ave. cost of oil cons. per month	349.75	99.75	300.00
Ave. cost of breakdown per month	2,400.00	0.00	2,400.00

Pilot Study Data Comparison for Ka Vic's jeepney:

Particulars	Before Repair by IPC		After Repair by IPC	
Compression Pressure per cylinder	#1 – 120 psi #2 – 120 psi	#3 – 120 psi #4 – 120 psi	#1 – 441 psi #2 – 441 psi	#3 – 368 psi #4 – 515 psi
Engine Oil Pressure	Idling (hot) – 0 psi Hi-speed (hot) 10 psi		Idling (hot) – 50 psi Hi-speed (hot) 70 psi	
Emission Test Result	"Failed" 72.7 Opacity (unknown K Value)		"Passed" 13.8% Opacity (1.9 K Value)	
Ave. no. of trips per day	2.96		4.73	
Ave. no. of tripdays per month	22		26	
Ave. diesel fuel consumption rate	4.51 kms. per liter		5.36 kms. per liter	
Ave. diesel cons. per day (liters)	22.84		19.22	
Ave. diesel cons. per month (liters)	548.16		499.72	
Ave. oil cons. per month (liters)	5.33		1.33	
Ave. no. of breakdown per month	2		None to date	

Cost / Benefit:

Particulars	Before Repair by IPC	After Repair by IPC	Difference / Savings
Net Income per Day	500.00	750.00	250.00
Ave. cost of diesel cons. per day	354.02	297.91	56.11
Ave. cost of oil cons. per month	399.75	99.75	300.00
Ave. cost of breakdown per month	2,400.00	0.00	2,400.00



First Anniversary Celebration / Memorandum of Agreement Signing



The past year saw us bring out "The Best in Us".



Engr. Willie Nava listens intently to Mr. Waheed Imam of USAID as Mr. Boy Dulce also of USAID looks on





Cong. Raffy Biazon of Muntinlupa City, (wearing checkered shirt) discusses transport issues with some transport leaders.



Mr. Jimmy Legaspi, Chief of DOTC Special Operations, (in blue bush jacket) a partner during some of IPC's training activities joins the celebration.



ALTODAP President Boy Vargas, (3rd from right) with fellow transport leaders during the MOA signing and project anniversary.



Engr. & Mrs. Willie & Norma Nava, (in the middle) together with Ms. Laurie de Freese of USAID, led the inauguration and blessings of IPC automotive shop by Rev. Fr. Landicho.



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Ms. Laurie De Freese of USAID shares light moments with Engr. & M-rs. Willie Nava.



Ms. Grace Favila of DENR, Cong. Raffy Biazon and Mr. Waneed Imam of USAID are seated together during the program ceremony

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Ms. Laurie De Freese delivers an inspirational message to PUV operators and drivers on the occasion.



Cong. Raffy Biazon of Muntinlupa congratulates IPC for work well done.



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Highlight of the celebration is the signing of the Memorandum of Agreement with CRAVE Leaders.



Ms. Laurie De Freese attests the MOA signing by affixing her signature

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Engr. Nava seated between Mr. Allan Simundac, President of INTERBOA and USAID's Ms. Laurie De Freese while signing the MOA.



IPC Project Team headed by Engr. Nava poses for a group picture after the program

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Mr. De Luna of PCDO-ACTO raises some concerns to Mr. Nava during his visit at IPC's office in Alabang. Seated at Mr. de Luna's right is Mr. Bert Villanueva, IPC's Financial Consultant, and at the back is Ms. Lizette Fernandez, IPC's Project Manager.

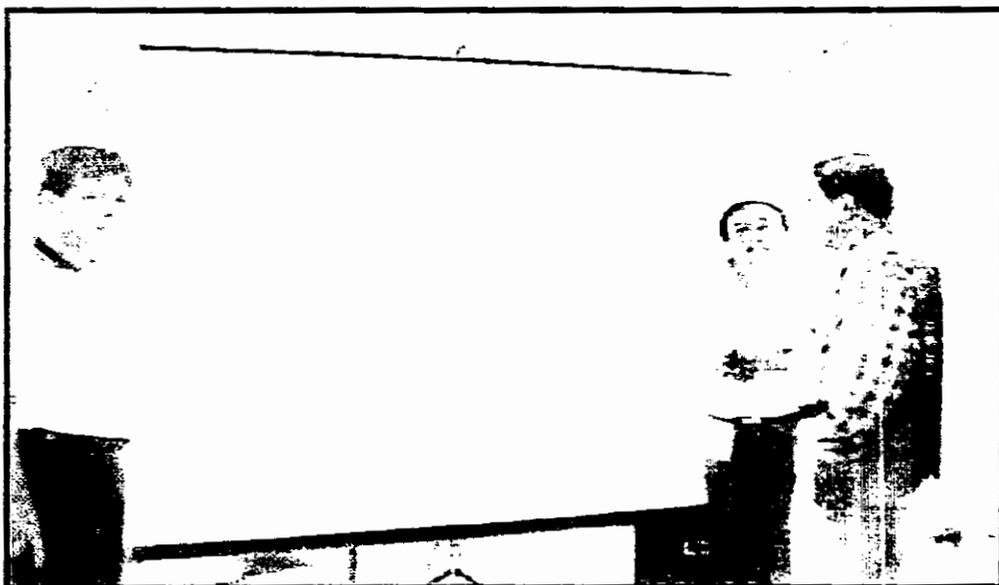


Mr. Nava explains to Mr. Boy Vargas (FERCODA President) IPC's project on Vehicle Emission Control during the exploratory meeting at Mex's Restaurant, Quezon Memorial Circle.





Mrs. Zenaida Maranan, FEJODAP National President, acknowledges the importance of the project and enjoins her federation presidents to fully support and cooperate with IPC-USAID's project on Vehicle Emission Control to help reduce the worsening air pollution in Metro Manila



Showing support and cooperation to IPC's Vehicle Emission Control Project, Mr. Simundac, INTERBOA president shakes hand with Mr. Nava as witnessed by Mr. Dulce of USAID.



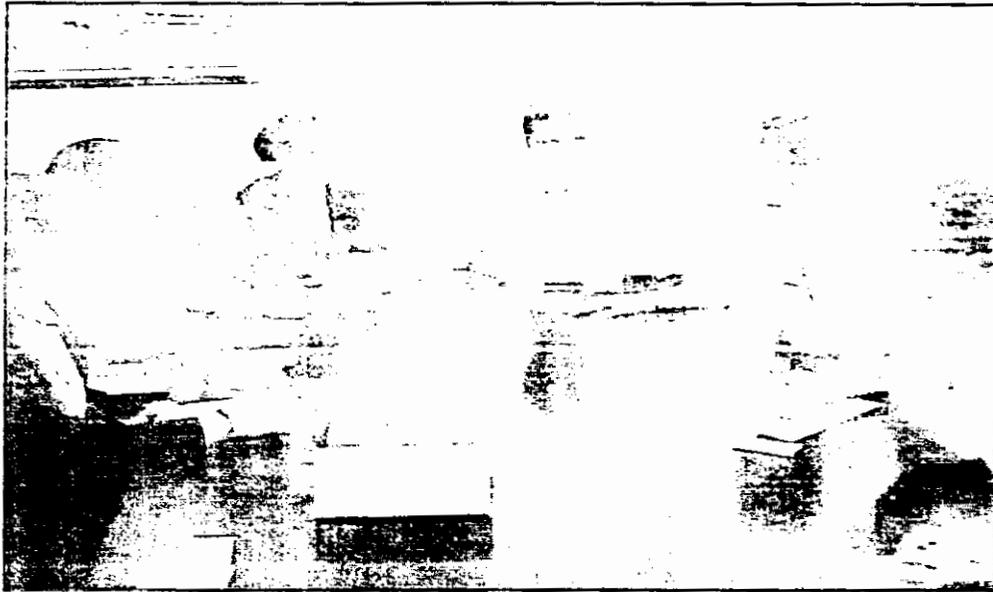


Mr. Melchor Estacio receives the keys of his newly reconitioned 19-year old jeep from PC Pres. Engr. Willie Nava.



The third pilot study unit owned by Mr. Noel Diomampo of FEJODAP is assessed and prepared by IPC Automotive Shop Supervisor Mr. Almeida on May 13 for baseline monitoring.





IPC Pres. Engr. Willie Nava meets with representatives of the Philippine Postal Bank and Ms. Grace Favita of the DENR to discuss the possibility of the bank's being a conduit for the proposed DBP environmental loans for jeepney drivers and operators.



IPC Pres. Engr. Willie Nava shows to Ms. Laurie de Freese of USAID the progress of the repairs on Mr. Estacio's jeepney during the latter's visit to IPC Awarang office.





Mr. Nava attended the meeting called by DOTC Under Secretary Arturo Valdez to monitor the integrity of PETC implementation. The meeting were attended by leaders of various transport organizations, PETC operators, DTI representative, AED and USAID.



Engr. Nava discusses with Mr. Robie Torres of PROG Transport (in white shirt) the mechanics of the pilot study on one of their buses.



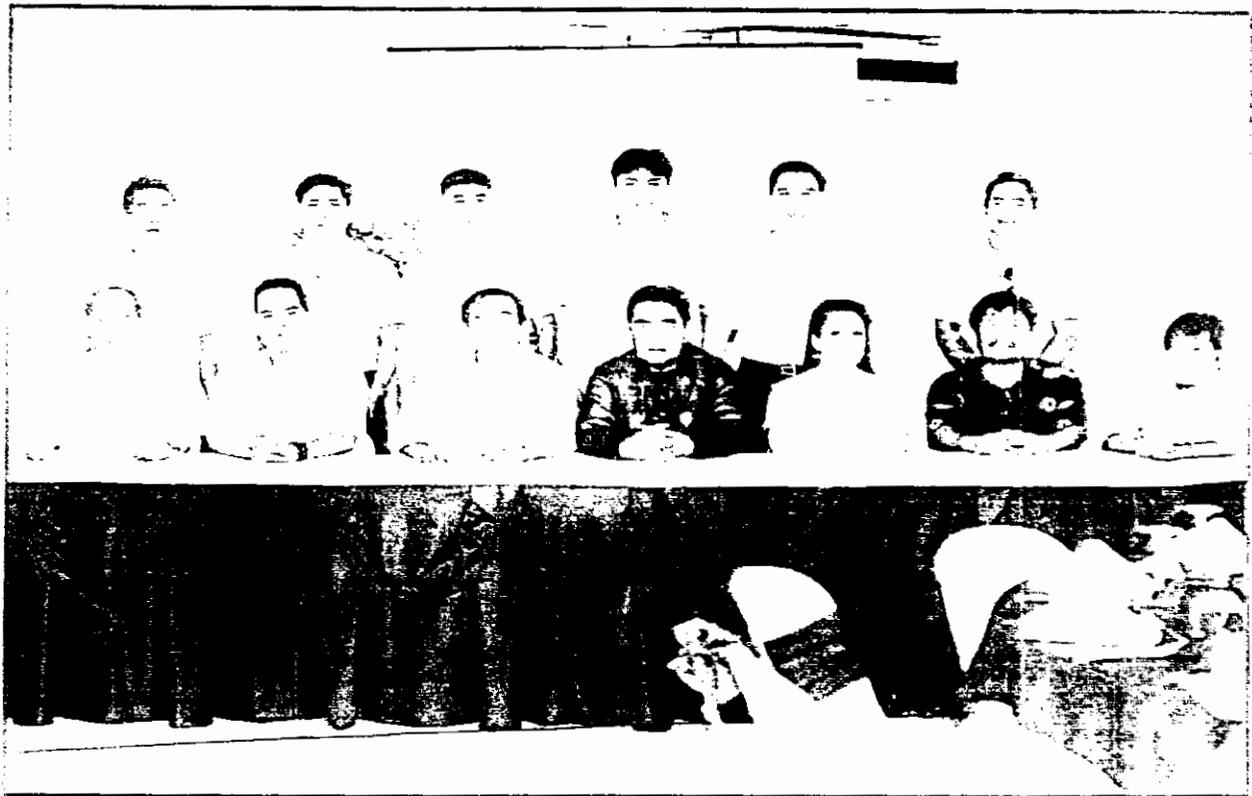


Mr. Nava presents to DENR Secretary Elisea Gozun a win-win approach in averting the impending transport strike planned on January 2003 in a meeting at DENR office last December 30, 2002.



Engr. Willie Nava hands over to Mr. Victor Cornelio his 12-year old jeepney which has met the emission standard after the repairs made by IPC





CRAVE Coalition leaders (standing at the back), pose for a group picture together with IPC's Engr Willie Nava, Ms. Laurie de Freese of USAID and some transport federations leaders after the signing of Memorandum of Agreement during IPC's First Anniversary celebration.



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