
United Nations Development Programme

Islamic Republic of Pakistan

**Evaluation of UNDP/GEF Project: Fuel Efficiency in the Road
Transport Sector
(PAK/92/G31)**

Report of the Final Evaluation Mission

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ABBREVIATIONS

APR	Annual Project Review
CCF	Country Cooperation Framework
CEDAW	Convention of the Elimination of Discrimination Against Women
DODO	Dealer Owned Dealer Operated
ECF	Energy Conservation Fund
EFI	Electronic Fuel Injection
ENERCON	National Energy Conservation Center (Ministry of Environment)
EPA	Environmental Protection Agency
EPD	Environment Protection Department
FERTS	Fuel Efficiency in the Road Transport Sector
GEF	Global Environment Facility
GoP	Government of Pakistan
GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
JICA	Japan International Cooperation Agency
MoE	Ministry of Environment
MoF	Ministry of Finance
MTE	Mid-term Evaluation
MVE	Motor Vehicle Examiners
MVETS	Mobile Vehicle Emission Testing Station
NCSR	National Conservation Strategy Report
NEQS	National Environmental Quality Standards
NGO	Non-Governmental Organization
NHA	National Highways Authority
NISTE	National Institute of Science and Technical Education
NTRC	National Transport Research Centre
OP	Operational Program
PIR	Project Implementation Review
Prodoc	Project Document
PSO	Pakistan State Oil
RLF	Revolving Loan Fund
SEBCON	Socio-economic and Business Consultants
SuRF	Sustainable Resource Foundation
TPR	Tripartite Review
UNDP	United Nations Development Program
UNIDO	United National Industrial Development Organization
USAID	United States Agency for International Development
VETS	Vehicle Emission Testing Station
WHO	World Health Organization
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

According to the Pro-Doc of May 1996, the development objective of FERTS was to reduce greenhouse gas emissions and other pollutants through the improvement of fuel efficiency of road transport vehicles.

Immediate objectives of FERTS were to:

- Develop a market for instrumented tune-ups through tune-up demonstration and training centers. Market would be developed through the establishment of gasoline and diesel tune-up demonstration centers, training of workshop owners and mechanics, promoting awareness on instrumented tune-ups and strengthening and building the capacity of the appropriate government institutions;
- Develop options for sustaining fuel efficiency in the road transport sector. Special studies would be completed to identify the policy areas for development followed by dissemination workshops; and
- Providing financing for the purchase of tune-up equipment. Through the establishment of a revolving loan fund (RLF), loans at concessionary borrowing rates could be disbursed to sustain the growth of tune-up centers.

Global environmental objectives of FERTS were to reduce source emissions of greenhouse gases (GHGs) and other pollutants by improving fuel efficiency of road transport vehicles in Pakistan.

Developmental objectives of FERTS were to reduce the reliance of Pakistan on imported oil.

Target beneficiaries of FERTS included:

- Owners and mechanics of local vehicle maintenance and repair shops; and
- Vehicle owners including private, public and large fleet owners;

FERTS achievements as of September 2005 included:

- Establishment of 50 Tune-up centers that included:
 - Training of 895 workshop owners (against a target of 360) in 40 workshops;
 - Training of 2075 mechanics (against a target of 600) in 86 workshops; and
 - A targeted awareness campaign.
- Completion of the setup of a revolving loan fund (RLF) that has received seed funds from GEF for US\$ 3.00 million;
- 12 special studies on various topics out of 15 targeted for completion.

Overall project outcomes are rated satisfactory. This is based on FERTS achieving and exceeding targets set for the development of the market for instrumented tune-up centers and the completion of special studies to catalyze policy formulation in the road transport sector. The project would have been rated highly satisfactory if the special studies had more effectively

catalyzed policy formulation for fuel efficiency in the road transport sector and if the project had disbursed and recovered funds from its revolving loan fund for financing tune-up equipment.

The Evaluation Team drew the following conclusions:

- FERTS has succeeded in creating awareness of the value of well-tuned engines and its relationship to environmental quality. This achievement is notable due to the successful engagement of the private sector. Awareness of well-tuned engines, however, is confined to private vehicle owners from the upper and middle class, and not with commercial operators who comprise roughly 60 to 70% of the number of motor vehicles from an estimated 4 million vehicles in Pakistan;
- FERTS has contributed to poverty alleviation through the training of mechanics and creating new opportunities for SME workshop owners and entrepreneurs. Many of these mechanics and owners will be able to raise the awareness of the relationship between urban air quality and the environmental benefits of well-tuned vehicles;
- GHG reductions resulting from tune-up centers were modest. With the increase in the number of road vehicles for transport, sustaining and increasing GHG reductions after FERTS cannot be accomplished solely by promoting engine fuel efficiencies and tune-up centers;
- The ECF has the potential to provide an excellent mechanism for sustaining the growth of SME fuel efficiency initiatives in Pakistan. However, its success will depend on how it is supported, marketed and managed. ECF loans to potential purchasers of this equipment are likely to be auto-repair shops that have other activities to support the equipment purchase. Hence, ECF marketing and operations will need to be based on a strategic business plan that includes targeted marketing to a niche group of repair shops who will benefit from ECF concessionary borrowing rates. More importantly as a first step, it will be important to initiate the disbursements of loans to the interested entrepreneurs;
- Concerted efforts by FERTS to incorporate gender into project activities have had modest impacts. This includes raising awareness amongst female drivers of the environmental and health benefits of well-tuned engines and encouraging their participation in training sessions for mechanics and management of tune-up centers. More comprehensive approaches and planning of activities, however, will be required if gender is to be mainstreamed into future activities including:
 - gender sensitive participatory planning;
 - improved understanding of the transport needs of women;
 - gender-sensitive interventions that meet the needs of women that can be piloted refined and replicated;
 - “level playing fields” for women entrepreneurs who want to setup tune-up centers individually or communally;
 - gender sensitive monitoring and evaluation.
- The capacity of ENERCON to manage post-FERTS activities requires strengthening. Aside from the FERTS National Project Manager who has returned to ENERCON, there is no

corporate memory of FERTS within ENERCON. Clearly, if ENERCON are to manage post-FERTS activities and the ECF, it will require some form of logistical and financial support.

Key lessons learned from FERTS includes:

- The presence of strong project steering committee mechanism and the proper delegation of authority to the national project director is essential to any project success. Minutes from FERTS project steering committee meetings and tripartite reviews contained detailed discussions of items critical to the progress of the project and decisive measures to move the project forward;
- Specialized consulting expertise can provide significant and timely project benefits. FERTS was challenged in its efficiency and effectiveness in the delivery of the special studies and RLF outcomes. In both instances, an expert with international experience deployed at the start of each of these components would have increased the probability of better outcomes. This would have included a micro-credit specialist for the RLF and a strategic transport planner for the special studies. In addition, a project management specialist would have provided valuable guidance in the allocation of project resources with a reduced emphasis on the tune-up centers;
- A structured strategic planning exercise would have facilitated a better outcome from the special studies component. With the lead of a strategic transport planner, broad priorities of the road transport sector would have been identified with corresponding and appropriate actions within a format of a logical framework matrix. This would include a mission statement, identification of challenges and strategic priorities (such as strengthening policies and administrative processes, creating awareness, addressing certain transport sub-sector priorities such as commercial and fleet vehicles, and capacity building) and proposing specific actions to address the strategic priorities. Specific actions would have been the basis of special study topics. The qualified strategic transport planner (with international experience) could have facilitated a strategic planning session to elicit responses from participants on contributions to a road transport strategic plan;
- Flexibilities need to be built into project designs in the event of changes in government policy and commitments. Prior to its commencement, one of the keys to a fully successful outcome of FERTS was a completely autonomous ENERCON that would have been allowed to operate beyond its mandate as a government organization. Conversely, ENERCON is currently not the autonomous organization as envisaged, and has been operating since 1997 as a department under the Ministry of Environment with numerous technical positions that have been vacant for years. The establishment of the ECF is an attribute of project design flexibility to allow ENERCON to operate under a company limited by guarantee and on a better platform to further its mandate of promoting energy efficiency and conservation. ENERCON will need to ensure full and effective management of the ECF.

The Evaluation Team provides the following recommendations to the Government of Pakistan to strategically reduce their reliance on imported fuels, improve urban environmental quality and improve their foreign balance of payments:

- Provide commitments (financial and increased technical staff levels) to strengthen ENERCON and its staff. Strong consideration should be given to enacting an Energy Conservation and Management Bill that would return ENERCON to its autonomous status prior to 1997. This would provide incentives for young and experienced professional staff to fill the numerous vacancies in ENERCON, and strengthen ENERCON to meet its objectives of energy efficiency and conservation;
- Provide appropriate support to further the development of the strategically important Energy Conservation Fund as a primary means to fund fuel efficiency initiatives for SMEs. This would include formulation of a strategic business plan to focus ECF resources towards a niche group of SME vehicle repair facilities; providing administrative and technical support to promote and manage the fund; and supervising existing tune-up centers to maintain quality standards. Further efforts can also be made towards strategically positioning the ECF to finance fuel efficiency activities for marginal income vehicle operators and operators of commercial trucks and buses;
- Through appropriate institutions (using ENERCON as a coordinating institution):
 - Conduct strategic planning to determine the country's priorities on improving fuel efficiency in the road transport sector. This would include a mission statement (e.g. reducing fuel consumption in the road transport sector), identification of challenges and strategic priorities (such as strengthening policies and administrative processes, creating awareness, addressing certain transport sub-sector priorities such as commercial and fleet vehicles, and capacity building) and proposing specific actions to address the strategic priorities. Moreover, ENERCON should facilitate the continued advancement of the special studies already in progress at the conclusion of FERTS, towards policy formulation;
 - Continue programs to remove regulatory barriers to further improvements to fuel efficiency of road transport vehicles including setting of emission standards for all road vehicles and strengthening enforcement capacities of those standards;
 - Implement programs to create awareness and actions towards fuel efficiency across a wider demographic in the road transport sector. This would include programs that demonstrate and disseminate economically feasible fuel efficiency options for commercial vehicle operators (trucks and buses) and marginal income operators (auto-rickshaws). Measures may include amongst several options, conversions to alternate fuels, modifications of truck loadings in concert with truck body modifications and changes in road driving behavior. The inclusion of comprehensive gender sensitive programs would only increase the effectiveness of these awareness programs;
 - Initiate studies and actions that provide opportunities for larger GHG reductions in the road transport sector. Based on a review of regional sustainable transport initiatives, the GoP can undertake a number of measures including improving traffic management and shifting public reliance of urban transport towards mass transit and non-motorized transport modes. Initiation of these studies and actions, however, will require a thoughtful strategic approach based on available resources and stakeholder adoption at several levels. Stakeholder adoption may be with specific cities within Pakistan that can and are appropriate to host pilot demonstration projects on various measures. Examples of various measures includes:

- *Incorporation of sustainable transport principles into the planning of new areas;*
- *Encouraging the use of high capacity vehicles through the piloting of premium bus services or bus rapid transit wherever feasible;*
- *Piloting segregated pathways for pedestrian, bicycle and other forms of non-motorized transport;*
- *Increasing awareness of sustainable transport opportunities.* This would involve building the capacity of institutions and individuals to become aware of, champion and manage implementation of sustainable transport opportunities.

The Evaluation Team provides recommendations to the UNDP on how they could assist the GoP in fuel efficiency in the road transport sector:

- Support institutional strengthening of ENERCON through:
 - Providing expertise to guide strategic planning sessions involving ENERCON personnel;
 - Assistance to ENERCON to develop its own capacity to effectively direct its institutional development based on its strategic plan, improve its performance and enhance its credibility;
 - Technical assistance to demonstrate fuel efficiency initiatives implemented through the ECF such as the use of alternate fuels and clean technology usage in commercial vehicle fleets for buses and trucks;
 - Providing expertise to maximize the effectiveness of awareness programs that should include elements of gender sensitivities;
 - Assistance towards a human resource development programs that will improve the competence and effectiveness of the ENERCON workforce;
- Solicit commitment of GoP in the development of a follow-up project to FERTS that would support their efforts to promote sustainable road transport across a wider demographic. This can be a comprehensive GEF-funded project to include:
 - A strengthened ENERCON as an implementing agency. The project would include stronger actions to engage stakeholders including ENERCON into ownership of the project. This would include:
 - ⇒ A transparent and collaborative interaction between all stakeholders that will ensure an atmosphere of equality and partnership on all key aspects of project planning and implementation;
 - ⇒ ENERCON staff participation in key project management decisions;

- ⇒ A commitment to results-based management;
 - ⇒ Extensive information sharing between all concerned stakeholders;
 - ⇒ Improved integration of new project into the operations of ENERCON. This integration would be implemented in parallel with institutional strengthening efforts;
- Using the ECA-RLF account as an instrument for funding fuel efficiency initiatives;
 - Studies that will support policy development and strategies to reduce transport fuel consumption and pollution through climate friendly transport alternatives (as determined through a strategic planning process). Possible outcomes from a strategic planning process would include:
 - incorporation of sustainable transport principles into the urban design of new developments that would lead to decreased travel demands and improved traffic flows;
 - improved support for public transport and the demonstration of the use of high capacity vehicles to increase public awareness of the advantages of transport corridors and climate friendly technologies;
 - promoting non-motorized vehicles (NMVs) for urban transport through pilot sites that are dedicated and safe NMV passageways for bicycles, pedestrians, and other forms of NMVs;
 - selection of appropriate pilot cities to demonstrate sustainable transport planning, fuel efficient engines, improved public transport systems and NMV corridors;
 - strengthening institutional and individual capacities on sustainable transport issues focusing on holistic road transportation issues related to the growth of the vehicle population and urban populations in Pakistan;
 - support for dissemination and raising public awareness on sustainable transport issues in the form of conference presentations, training programs, and audio-visual aids;
 - support for gender mainstreaming programs that will reach a wider demographic; and
 - support to strengthen effective project management as well as monitoring and evaluation so that objectives are met.
 - If the concept of a GEF-funded project as a follow-up to FERTS is acceptable to the GoP, assist in preparations for a PDF B application for such a project that can include the following activities:
 - Constitute a Project Steering Committee (PSC) and identification of a list of stakeholders at the federal and provincial levels;
 - Detail the sustainable transport measures, models and methodologies to be piloted;
 - Shortlist potential pilot demonstration cities;
 - Negotiate with the short-listed cities, and identify the most appropriate cities through a transparent process led by the PSC;

- Identify training needs of key stakeholders involved in urban transport planning within all levels of government (federal, provincial and municipal);
- Design training programs;
- Design awareness programs;
- Design knowledge management activities, including identifying lead training or knowledge institute;
- Design monitoring and evaluation plan;
- Conduct a log frame workshop to discuss the final project design, costing, financing and responsibilities;
- Develop GEF and UNDP full project documentation.

1. INTRODUCTION

This report summarizes the findings of the Evaluation Mission conducted during the period of September 23 to October 8 2005 for the “Fuel Efficiency for Road Transport Sector” (FERTS).

The Pro-Doc for FERTS was signed by the Government of Pakistan and UNDP on May 21, 1996. While FERTS was originally designed as a 5-year project, its implementation was essentially conducted in two phases. The “first” phase was conducted between October 1996 and October 1999. A “mid-term review” of FERTS conducted in October 1999 reported slow progress and provided a number of recommendations aimed at FERTS meeting its objectives within the original 5-year period. The second “half” of the project was implemented under these recommendations that included changes in management reporting lines and project personnel. Duration of the second “half” of the project was close to 6 years.

1.1 Objectives and Scope of Evaluation

The main objectives of this Evaluation were to “to evaluate project impacts and achievements against the objectives as set forth in the pro-doc, while also evaluating project successes and failures, as well as lessons learnt. “

The Pro-Doc states that GEF project funding was intended to reduce at-source emissions of greenhouse gases and other pollutants by improving fuel efficiency for transport vehicles in Pakistan. Funding was also intended to build institutional capacity to review transport options, expand pilot projects to tune-up urban vehicles, and develop options with regard to technology transfer, regulations and pricing. This evaluation provides:

- Information on the effectiveness of project activities; and
- Recommendations on potential activities to move current initiatives forward.

The evaluation was conducted under the following scope:

- Review of key documents and consultations with key personnel;
- Assessment of progress in the context of meeting objectives, and characterizing impacts and achievements over the full project period from 1996 to September 2005;
- Assess institutional sustainability with a focus on the proposed exit strategy adopted by the project. In this regard, the opinions of ENERCON, EPA and UNDP are to be considered;
- consideration the opinion of customers, private sector and NGOs about the project achievements and environmental and socio-economic impacts. Visits of other tune-up centers, established in the private sector, can also be done.

- Assess the efficiency of Project management, its organizational setup, rules and procedures for its functioning, decision-making process, compliance with the decisions adopted for implementation, including financial management and the delivery of inputs in terms of quality, quantity and timeliness.
- Identify, analyze and record major factors that have facilitated or impeded the progress in achieving the intended outputs and their outcomes (planned and unplanned).
- Record the significant lessons that can be drawn from the experience of the Project and its results, in particular, anything that worked well and that can be potentially applied to other Projects and can be used in replication, and as a set of best practices.
- Based on the above findings, formulate a set of specific recommendations for future sustainability of the project and successful replication.

The detailed ToRs as set by UNDP Pakistan are shown in Appendix A.

1.2 Evaluation Methodology

The Evaluation was conducted as follows:

- Review of key reports and UNDP files on project activities in Islamabad. A list of documents reviewed is shown in Appendix B;
- Interviews with consultants and the Project Management Office (PMO) in Islamabad. Interviews were conducted during the September 22-October 8, 2005 period;
- Interviews with FERTS project personnel, their private sector partners and various levels of governments in Pakistan including officers from Ministry of Environment (MoE), ENERCON, the Hydrocarbon Development Institute of Pakistan (HDIP), Ministry of Commerce (MoC), Economic Affairs and consultants to FERTS. Persons interviewed during this evaluation are listed in Appendix B;
- Interviews with the UNDP staff involved with the project;
- Incorporating cross-referenced opinions, key views and information into the Evaluation Report.

A detailed itinerary of the Mission is shown in Appendix C. The Evaluation Mission comprised of one International Expert, one National Expert, one National Gender consultant and one representative from the Ministry of Environment.

This evaluation report is presented as follows:

- An overview of project implementation to date from 1992 and its context with the development of Pakistan;

- Review of project outcomes based on project design and execution;
- Conclusions and lessons learned from the project; and
- Recommendations based on lessons learned that can continue the positive trends initiated by FERTS.

This evaluation report follows the format specified by the UNDP Guideline for Evaluators (December 1998). Wherever possible, evaluation guidelines as set in the GEF's "Monitoring and Evaluation Policies and Procedures" January 2002 were also followed.

2. PROJECT IMPLEMENTATION

FERTS was originally conceived in 1992, one of the first GEF projects in the region. The Pro-Doc was not approved until 1996. Due to a very slow start to the project, a mid-term evaluation conducted in 1999 that recommended re-structuring of the project mainly in personnel and management organization to achieve the original 1996 project objectives.

2.1 Original Project Objectives and Re-Structuring

According to the Pro-Doc of May 1996, the development objective of FERTS was to reduce greenhouse gas emissions and other pollutants through the improvement of fuel efficiency of road transport vehicles.

Immediate objectives of FERTS were to:

- Develop a market for instrumented tune-ups through tune-up demonstration and training centers. This was to be achieved through the establishment of 10 gasoline and 5 diesel tune-up demonstration centers, training of workshop owners and mechanics, promoting awareness on instrumented tune-ups and strengthening and building the capacity of the appropriate government institutions;
- Develop options for sustaining fuel efficiency in the road transport sector. Special studies would identify the policy areas to be developed, conducting special studies, and dissemination workshops; and
- Providing financing for the purchase of tune-up equipment. Through the establishment of a revolving loan fund (RLF), loans at concessionary borrowing rates could be disbursed to sustain the growth of tune-up centers.

Global environmental objectives of FERTS were to reduce source emissions of greenhouse gases (GHGs) and other pollutants by improving fuel efficiency of road transport vehicles in Pakistan. Developmental objectives of FERTS were to reduce the reliance of Pakistan on imported oil.

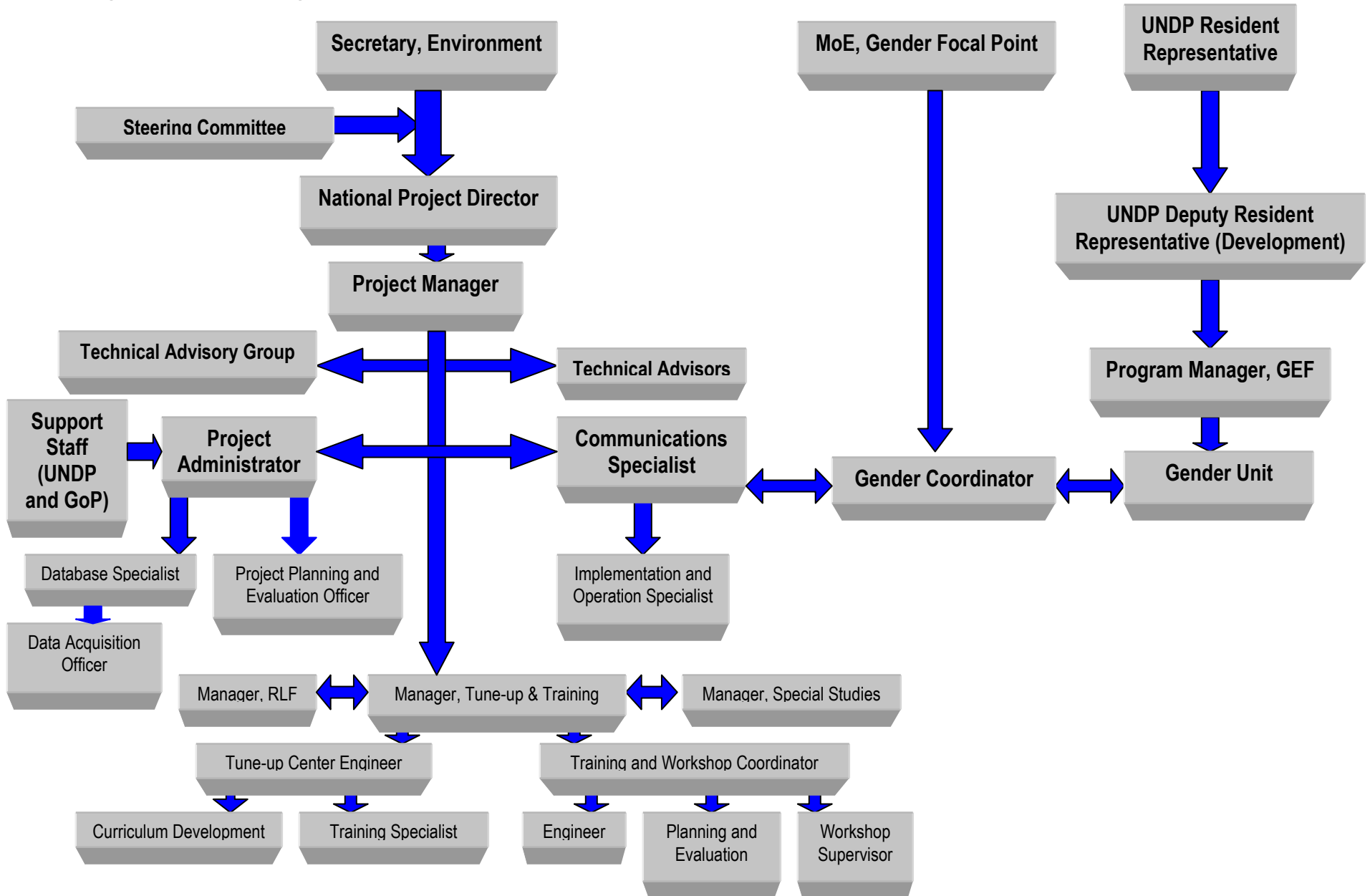
Target beneficiaries of FERTS included:

- the local vehicle maintenance and repair sector; and
- vehicle owners including private, public and large fleet owners.

2.2 Implementation Modalities

ENERCON is the government counterpart agency with the sole responsibility for promoting energy conservation and efficiency improvements. FERTS project personnel are organized as a parallel organization to technically assist counterpart ENERCON personnel with project implementation. The FERTS project organization chart is shown on Figure 1.

Figure 1: FERTS Organization Chart



2.3 Achievements of FERTS to Date

As of September 2005, FERTS activities (as proposed in the Pro-Doc) as well as revised and enhanced targets (as approved by the Mid Term Review Committee) have been completed including:

- Establishment of 50 Tune-up centers that included:
 - Training of 895 workshop owners (against a target of 360) in 40 workshops;
 - Training of 2075 mechanics (against a target of 600) in 86 workshops; and
 - A targeted awareness campaign.
- Completion of the setup of a revolving loan fund (RLF) that has received seed funds from GEF for US\$ 3.00 million;
- 12 special studies on various topics out of 15 targeted for completion.

Province-wide distributions of tune-up centers and training workshops for prospective workshop owners and mechanics are shown Figure 2.

Figure 2: Province-Wide Distribution of FERTS Tune-up Centers and Workshops for Owners and Mechanics

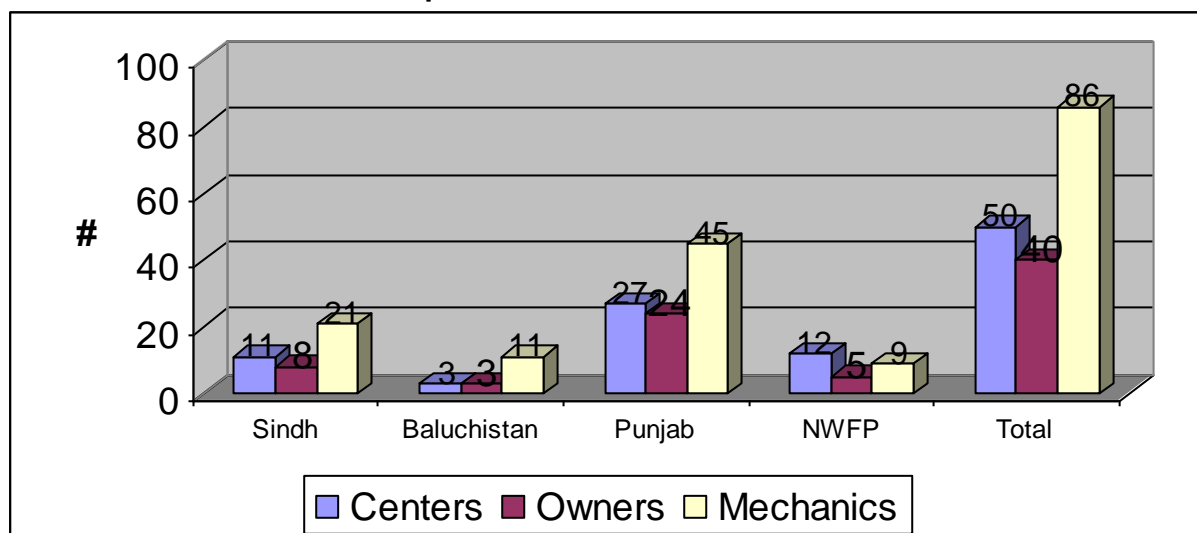


Table 1 provides detailed data of tune-up centers, number of workshops for the training of workshops owners along with the number of owners trained, number of workshops and number of mechanics trained.

Table 1: Details of Training for Owners and Mechanics of Tune-Up Centers

City	Province	Tune-Up Centers	Training			
			Owners		Mechanics	
			# of Training Workshops	Persons Trained	# of Training Workshops	Persons Trained
Karachi	Sindh	10	6	107	15	419
Hyderabad	Sindh	1	2	64	6	178
Quetta	Baluchistan	3	3	76	11	231
Lahore	Punjab	6	6	165	13	289
Rawalpindi	Punjab	5	2	56	0	0
Islamabad	Punjab	7	4	84	14	320
Gujranwala	Punjab	1	2	34	7	161
Jhelum	Punjab	1	0	0	0	0
Sialkot	Punjab	1	1	25	0	0
Talagang	Punjab	1	0	0	0	0
Shikhupura	Punjab	1	0	0	0	0
Sahiwal	Punjab	1	1	21	0	0
Burewala	Punjab	0	1	29	0	0
Vehari	Punjab	1	0	0	0	0
Faisalabad	Punjab	1	3	57	4	90
Multan	Punjab	1	4	85	7	71
Peshawar	NWFP	7	3	52	5	102
Mardan	NWFP	1	1	19	0	0
Haripur	NWFP	2	0	0	0	0
Abbotabad	NWFP	1	1	21	4	115
Masehra	NWFP	1	0	0	0	0
	Total	53	40	895	86	1976

2.4 Quality of Monitoring and Backstopping

FERTS has had a close relationship with the UNDP CO who have provided some internal monitoring and backstopping support for project workshops, major project decisions, recruitment and procurement decisions. This support has consisted of frequent visits and communications between the PMO and UNDP (UNDP Pakistan and UNDP-GEF). Without this support, the project would have undoubtedly experienced further delays. However, given there was room for improvement based on the actual outcomes, FERTS would have benefited from increased monitoring and annual audits from UNDP.

3. EVALUATION OF PROJECT OUTCOMES

Overall project outcomes are rated satisfactory. This is based on FERTS achieving and exceeding targets set for the development of the market for instrumented tune-up centers and the completion of special studies to catalyze policy formulation in the road transport sector. The project would have been rated highly satisfactory if the special studies had more effectively catalyzed policy formulation for fuel efficiency in the road transport sector and if the project had disbursed and recovered funds from its revolving loan fund for financing tune-up equipment. This section provides details of the evaluation of project outcomes leading to the satisfactory rating.

Project outcomes are evaluated in this section against the objectives of the 2003 project log-frame. The mid-term review of FERTS in October 1999 recommended structural changes to the project to achieve the original 1996 objectives. This included changes to the management structure and additional project personnel. A project log-frame was produced in August 2003 to update project objectives, outcomes, enhanced outputs and risk factors. Actual project outputs are compared with the outputs from the 2003 project log-frame on Table 2. Appendix D contains the 2003 project log-frame in its full form along with the actual end-of-project status for each outcome and output.

Table 2: Comparisons Between Expected Outputs and End-of-Project Status

Expected Outputs ¹	Status at Conclusion of the Project (September 2005)
<ul style="list-style-type: none"> 50 demonstration instrumented tune-up centers for road transport vehicles 	<ul style="list-style-type: none"> More than 50 tune-up centers have been established
<ul style="list-style-type: none"> 20 training courses for workshop owners 	<ul style="list-style-type: none"> 40 workshops for prospective owners completed
<ul style="list-style-type: none"> 20 training courses for automotive mechanics 	<ul style="list-style-type: none"> 86 training courses were completed
<ul style="list-style-type: none"> Awareness on instrumented tune-ups promoted 	<ul style="list-style-type: none"> Awareness promoted throughout those who own private vehicles. Awareness amongst commercial and marginal income earners absent
<ul style="list-style-type: none"> 15 completed special studies 	<ul style="list-style-type: none"> 12 are now completed with 4 studies nearing completion
<ul style="list-style-type: none"> Establishment of model inspection and certification center 	<ul style="list-style-type: none"> Funds were allocated by the GoP for the center but were not utilized by ENERCON
<ul style="list-style-type: none"> A functional RLF that has disbursed 116 loans for tune-up equipment and recovered 80% of the funds² 	<ul style="list-style-type: none"> 2 financial institutions selected with agreements finalized. No loans had been disbursed.

¹ from the 2003 Log-Frame (contained in its full form in Appendix D)

² APR/PIR for UNDP/GEF Projects 2005

Project outcomes are evaluated against:

- Its relevance to national development priorities and objectives;
- Outcome 1: Development of market for instrumented tune-ups;
- Outcome 2: Special studies for sustaining fuel efficiency in the transport sector;
- Outcome 3: Established revolving loan fund; and
- Overall project management.

Project outcomes are evaluated in the context of:

- ⇒ the project's relevance to national development priorities;
- ⇒ efficiency of project delivery;
- ⇒ actual outputs delivered;
- ⇒ meeting the intended immediate and developmental objectives;
- ⇒ effectiveness of the project in meeting these objectives;
- ⇒ building capacity;
- ⇒ sustainability; and
- ⇒ beneficiary views of the project.

3.1 Project Relevance to National Development Priorities and Objectives

The relevance of FERTS is significant to the 1992 Pakistan National Conservation Strategy (NCS) that has set three goals for the environmental protection of Pakistan:

- (1) Conservation of natural resources;
- (2) Promotion of sustainable development; and
- (3) Improvement of efficiency in the use and management of resources.

To achieve these goals, fourteen program areas were targeted for priority implementation including energy efficiency improvements, renewable resource development/deployment, pollution prevention/reduction, urban waste management, institutional support of common resources, and integration of population and environmental programs. The FERTS project is relevant to several of these program areas.

Additional national relevance to FERTS is reflected in the 5th UNDP Country Program (1996) that emphasized “support to the management of the environment and natural resources in accordance with GoP NCS”. The FERTS program bolstered UNDPs commitment to this Program through its focus on energy efficiency improvements. The 5th UNDP Country Program was updated into the “Country Cooperation Framework (CCF)” (1998 – 2003) that better reflected the needs of GoP. In particular, FERTS was relevant to three strategic objectives of the CCF including:

- Governance: One of FERTS objectives is related to building environmental and transportation policy and legislation. This objective is linked to the GoP strategic objective of creating an enabling environment within which the people of Pakistan can influence the direction and conduct of their governing institutions;
- Gender: The FERTs Mid-Term Evaluation (1999) emphasized gender issues and increasing sensitivity towards women drivers in a largely male-dominated sector. In response, FERTS has ensured that tune-up training is gender sensitive and has

- provided special discounts to women drivers bringing their vehicles into tune up centres (PIR, 2002). These project actions link with the GoPs policies of the need to advance the cause of women and support the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW). UNDP has assisted in the preparation of a national programme for the implementation of CEDAW;
- ***Sustainable Livelihoods:*** FERTS efforts to train mechanics on the use of tune-up equipment provide a strengthened linkage between poverty alleviation and improvements in environmental quality. FERTS has provided the employment opportunities for urban-based mechanics who would also raise awareness of the environmental benefits to well-tuned vehicles.

3.2 Outcome 1: Development of Market for Instrumented Tune-ups

Activities to develop this market included:

- Setting up of demonstration tune-up centers;
- Training of workshop owners and mechanics; and
- Conducting awareness activities.

Was the project efficient in the delivery of this outcome?

During the initial phases of FERTS, demonstration tune-up centers were confined to retail outlets of oil companies. This initially posed difficulties in meeting the LFA targets due to delays with cumbersome approval processes with various agencies. Subsequently, FERTS was authorized to set up tune-up centers at CNG filling stations and private sector automobile repair workshops as a measure to meet project objectives. Initially, FERTS faced difficulties in conducting the training sessions for workshop owners and automobile mechanics due to complexities of recruiting government technical training institutes. These issues were resolved through persistent efforts of the institutions.

The Mission noted evidence of special FERTS efforts to encourage the recruitment of women mechanics. Noting the keen interest shown, the FIKRI Automobile Institute in Karachi waived the minimum prerequisites for qualifying for its courses. Table 3 shows FERTS efficiency in meeting the targets for the establishment of demonstration tune-up centers. Figure 3 depicts the pace of establishment of the tune-up centers.

What outputs were delivered?

A total of 50 tune-up centers established against a 2005 cumulative target of 50. At the conclusion of FERTS, over 400 additional tune-up centers were purchased outside FERTS assistance³:

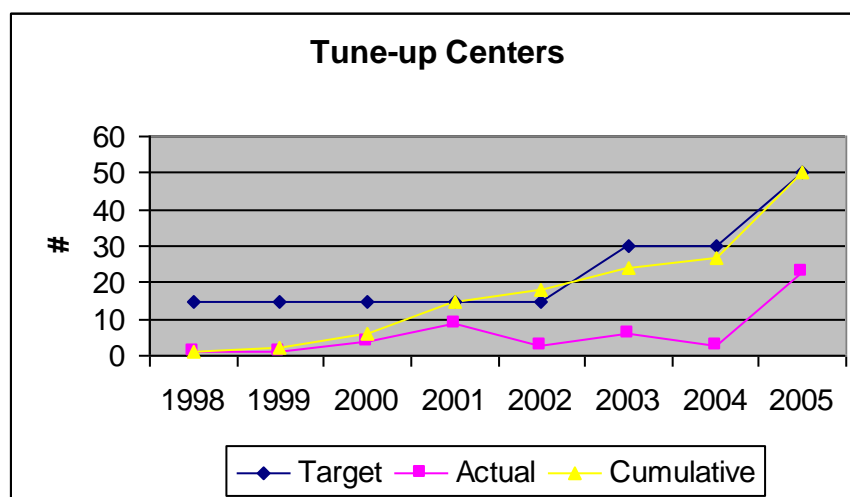
- 895 workshop owners trained against a 2005 cumulative target of 360;
- 2075 mechanics were trained against a 2005 cumulative target of 600⁴.

³ APR/PIR for UNDP/GEF Projects 2005

⁴ from presentation by FERTS NPM, Dr. Sarwar Saqib

Table 3: Efficiency of Tune-Up Center Establishment During Project

Year	Target	Status	Efficiency %	Cummulative Efficiency % Original Target (15)	Cummulative Efficiency % Revised Target (30)	Cummulative Efficiency % Revised Target (50)
1998	15	1	7	7		
1999		1	7	13		
2000		4	27	40		
2001		9	60	100		
2002		3	20	120		
2003	30	6	20		30	
2004		3	10		40	
2005	50	23	46		167	100

Figure 3: Comparison of Tune-Up Center Setup with Targets***Were immediate and developmental objectives met?***

The project successfully established the immediate objective of developing a market for instrumented tune-up centers. This is evidenced by the strong interest shown by the private sector in acquiring tune-up equipment that allowed FERTS to meet and exceed its original intermediate objectives.

Notwithstanding that emission reductions were realized on this project, the actual reductions were too small to conclude that FERTS developmental objectives were met. The reductions mainly applied to private vehicles owners mainly from middle to upper income classes who frequent the tune-up centers, and not commercial operators (who operate trucks and buses) and marginal income earners (auto-rickshaws).

What was the effectiveness of project activities?

Project activities that facilitated the participation of the private sector on the setup of the tune-up centers were very effective. This included identification of the types of machines and the provision of technical support to purchasers of the tune-up equipment. FERTS also provided support to setup free tune-ups during special events such as World Environment Day. This event also received participants from several private sector firms. FERTS was also very effective and sensitive to the involvement of women on the project in an otherwise, male dominated sector. This included large discounts for women drivers and female vehicle owners.

Training activities for prospective workshop owners and mechanics were very effective. The involvement of vocational training institutes to train auto mechanics enhanced the quality of training. From a gender perspective, some institutes (notably in Karachi) had relaxed prequalification requirements to attract potential women mechanic recruits. There is evidence, however, in certain areas of Pakistan (Balochistan) where qualification requirements ads for women mechanic recruits were too stringent.

Overall, the participation of the private sector as well as continued demand by clients for tune-up services provides indications that FERTS training activities were effective. FERTS circulated a questionnaire to training participants to seek feedback on the quality of the training courses. With a 60% response, over 70% felt the training enhanced their skills while 95% felt the training enabled them to better serve their clientele. One criticism of workshop owner training was the lack of linkages to available financing through FERTS RLF component; the linkage of training to financing would have enhanced the effectiveness of owners training.

Did project activities build capacities during the program to setup tune-up centers? FERTS activities were responsible for building capacity of tune-up center mechanics. This is a significant contribution to poverty alleviation. Many of these mechanics benefited from FERTS training that gave them steady employment at auto-repair shops and tune-up centers. They are also able to raise awareness of the relationship between a well-tuned engine and urban environmental quality.

While there were over 600 prospective owners trained in the setup tune-up centers, it is difficult to link the improved capacity of these trainees with the number of tune-up centers throughout the country. However, the number of tune-up centers throughout Pakistan provides another excellent indicator of the impact of FERTS as well as the capacities that have been built by the project.

Capacities built within ENERCON to manage such a program are minimal due to the lack of participation of ENERCON officers on FERTS.

What has been the impact of project activities related to the development of tune-up centers?

The impact of tune-up centers has resulted in the annual fuel savings and emissions reductions as follows:⁵

Gasoline savings = 26,472 Tonnes

⁵ APR/PIR for UNDP/GEF Projects 2005

Diesel savings	=	60,552 Tonnes
CO ₂ emission reduction	=	270,251 Tonnes
CO emission reduction	=	59,484 Tonnes
SO ₂ emission reduction	=	711 Tonnes
NO _x emission reduction	=	1,593 Tonnes
HC emission reduction	=	2,057 Tonnes
SPM emission reduction	=	3,428 Tonnes

Other impacts have included:

- private sector interest in tune-up shops as a means to reduce fuel consumption and to better serve clients. Several of these private sector firms including Shell and Toyota are making strong efforts to maintain a green image through their association with FERTS;
- increased awareness amongst private vehicle owners of the benefits of well tuned vehicles who are generally from the middle to upper class. This includes a significant number of women who were targets of a focused campaign to increase their use of the tune-up centers;
- enhanced skills and employment prospects for trained auto mechanics. This is based on the FERTS questionnaire on the training workshops.

Can the program to setup and maintain the tune-up centers be sustained?

With a continued demand by private sector for additional tune-up equipment, it is likely that the demand for tune-up centers will be sustained. This will require additional training of mechanics in the use of tune-up equipment well after the completion of FERTS. While there are sufficient incentives for the industry to self-regulate (this includes strong technical support from the suppliers of the tune-up equipment), there is no emergence of any government agencies to monitor and regulate the standards of the tune-up centers.

What are the views of the direct beneficiaries?

Views of direct beneficiaries of FERTS tune-up centers are very positive including tune-up center owners, mechanics and clients (i.e. private automobile owners using the tune-up centers).

3.3 Outcome 2: Special Studies for Sustaining Fuel Efficiency in the Transport Sector

Was the project efficient in delivery of this outcome?

At the conclusion of FERTS, 12 studies were completed with 4 studies nearing completion and 5 studies dropped for various reasons. Overall efficiencies of delivery increased with a dedicated position created in October 2001 for managing special studies. However, in an effort to have an open and transparent selection process for selecting study consultants (that included advertisement, proposal submission, technical shortlist of proposals and financial selection from shortlist), considerable effort was expended by the FERTS project team in managing and implementing this rigid and cumbersome process. In addition, each study had to undergo a long approval process, and some consultants have experienced lengthy payment delays for their services. These factors likely compromised delivery efficiency of the special studies.

What outputs were delivered?

FERTS delivered 12 completed studies at its conclusion with 4 studies still in progress and 5 studies dropped for various reasons. This output is satisfactory in terms of numbers.

Were immediate and developmental objectives met?

Four studies did catalyse various government departments into formulation of policies including the improvement of motor vehicle inspectors and vehicle emission standards. However, there were also several other studies completed that were not consequential in achieving the immediate and developmental objectives including studies in fuel efficiency in the trucking sector. This may change given the long gestation periods required for policy development.

Were the studies effective in identifying sustainable fuel consumption policies in the road transport sector?

The following special studies are being used by participating government agencies to formulate policy:

- “Improving Vehicle Emission Standards in Pakistan” being adopted by Pakistan EPA; Emission Standards are Under Revision by Pak-EPA
- “Strengthening the Institution of Motor Vehicle Examiners (MVE) in Pakistan” being adopted by several agencies including Punjab Province;
- “Implementation of National Highway Safety Ordinance 2000 and Ticketing System for Traffic Violations” being adopted by Punjab Province;
- Ambient Air Quality Monitoring, Study completed, draft report submitted. PAK-EPA will consider it as a base line study for its Clean Air Initiative.

The remainder of the 15 studies, however, has not resulted thus far in any follow-up activities. This maybe due to a number of reasons including:

- ⇒ The lack of a strategic approach in the selection of study topics. Examples include overlapping scope of work of subject matter such as the 3 studies on fuel efficiency on commercial trucks;
- ⇒ Loose terms of reference that would result in report outputs that are not useable;
- ⇒ A lack of innovative approaches by selected consultants to better assist users of the studies (mainly government agencies) in formulating policies;

Other factors that adversely impacted the effectiveness of the special studies include:

- ⇒ The lack of FERTS resources and collaboration with ENERCON counterpart personnel to effectively manage consultants. This resulted in consultant studies that lacked recommendations that could be easily adopted by policy makers; and
- ⇒ Paucity of consultants with detailed knowledge of the relevant subject matter;
- ⇒ Insufficient resources allocated to effectively study each topic.

Did the project build capacity of ENERCON and its consultants?

FERTS activities on special studies built little or no capacity of ENERCON with these studies. ENERCON participation on these studies was limited to a review role. The

studies, however, did improve the capacities of some of the consultants to address new topics on which they had no prior experience.

What were the impacts of Special Studies?

Overall, the special studies component appears to have had limited impact on policy formulation by the GoP and provincial governments. This may change over time given the long gestation periods of policy formulation.

Are the activities for Special Studies sustainable?

The GoP will have a continuing need for consulting inputs that assist policy formulation in the road transport sector. However, the Mission had difficulty in determining if sufficient GoP funds will be made available for further studies. As such, the sustainability of special studies is questionable.

What are the views of the direct beneficiaries?

There were mixed reviews of the studies from government agencies interviewed including EPA and the Ministry of Environment. Pakistan EPA found the special study on “Improving Vehicle Emission Standards” to be useful. However, various personnel with the Ministry of Environment found the studies too general in nature for their use.

3.4 Outcome 3: Established Revolving Loan Fund

Was the project efficient in establishing an RLF?

A chronology of the development of the Energy Conservation Fund (ECF) follows:

- Jan 2000 – ECF concept floated as a means to manage the RLF;
- Sept 2000 – local consultant presents concepts of the ECF;
- Jan 2001 – consultant requested to vet study through UNDP-GEF and conduct stakeholder consultations;
- July 2001 – ECF report issued to 5 other agencies for approval;
- Sept 2001 – committee finalizes consultant report and funds deposited into ECF;
- Oct 2001 – Board of Directors selected,
- Dec 2002 – FERTS commences search for financing institutions to manage loan disbursement;
- Dec 2003 – no progress on selection of financing institutions for loan disbursement;
- Nov 2004 – after initial poor response from financial institutions, 3 short-listed institutions make presentations to become manager of ECF;
- Early 2005 – two financial institutions selected for managing ECF;
- Sept 2005 – FERTS completed with no ECF disbursements.

Progress in the development of the RLF accelerated with the new project structure of 2000 that included a new project position for a manager of finance. However, at the conclusion of FERTS, no loans were disbursed from the RLF. One of the reasons for this outcome was the delay in selecting a financial institution to manage the ECF, compounded by the lack of understanding of project objectives by the financing institutions. Moreover, various persons during the mission had suggested in-country experience to develop an RLF was rare. Hence, the efficiency of project delivery would have improved through the short-term recruitment of a micro-finance specialist with international SME experience. The inputs of this specialist would have accelerated the development of the ECF to the extent that some loans may have already been disbursed prior to the conclusion of FERTS.

What outputs were delivered?

The only output was the establishment of the ECF to disburse RLF loans.

Were immediate and developmental objectives met?

The immediate objective of establishing a revolving fund for tune-up centers has been met. However, full establishment of the fund has not yet been met since ECF had not yet disbursed any loans. Although the fund structure and management have been established, the ECF cannot be linked at this time to the setup of any tune-up centers and hence, has not yet contributed to developmental objectives of reducing source emissions of GHGs by improving fuel efficiency in motor vehicles

Was the project effective in establishing the RLF?

The effectiveness of project activities was limited given that the ECF was established but had not yet disbursed any loans after 5 years of preparations. Project effectiveness in the development of the ECF would have been enhanced through the recruitment of a short-term expert with international experience.

Did the project build capacity for managing and sustaining an RLF?

There has been some capacity building of selected financial institutions who were chosen to manage the ECF. Apart from the National Project Manager for FERTS who has returned to ENERCON, little or no capacity has been built within ENERCON to operate within the ECF.

What has been the impact of the RLF?

Since no loans have been disbursed by the ECF at the conclusion of FERTS, the impact of the RLF component cannot be measured. However, there is a general consensus that the RLF will serve as a valuable mechanism on which to sustainably fund clean technologies and practices.

Is the RLF in its current state sustainable?

Since the ECF has yet to disburse any loans, it is difficult to assess its sustainability. However, the ECF possesses the elements for a sustainable future including:

- a Board of Directors with a broad spectrum of representation from the private sector, public sector and the UNDP; and
- being a limited company by guarantee.

What are the views of the direct beneficiaries?

Views of prospective tune-up shop owners were not taken during the mission.

3.5 Evaluation of Overall Project Management

Was it efficient?

The FERTS project management team delivered most of the outputs within a fairly difficult working environment. Their efforts are admirable in managing the project within an environment of transparency. However, such an effort may have left them with little or no time on other project management issues such as forecasting problems, preparing work plans, building a collaborative relationship with counterpart ENERCON staff, providing additional resources into the timely development of the RLF and improving the

quality of the special studies. A collaborative relationship with ENERCON staff would have likely propelled FERTS into achieving all its objectives.

Did project management achieve output targets?

Good project management is responsible for achieving and exceeding the number of tune-up centers. Additionally, targets for Special Studies have also been met. However, project management did not meet the objectives of a functional RLF that has disbursed 116 loans and recovered 80% of its funds.

Was project management responsible for meeting immediate and developmental objectives?

Good project management was largely responsible for meeting the immediate goals of developing a market for tune-up centers. Project design, however, was responsible for development goals of reducing GHG emissions not being met; FERTS tune-up centers only benefited middle and upper income class owners of private vehicles, and not marginal income operators and operators of commercial trucks and buses.

Was project management effective?

Project management was effective in reaching its objectives with the tune-up centers. However, improvements could have been made towards integrating all project activities and balancing project efforts towards the special studies and development of the RLF. For example, more urgency could have been placed on developing the RLF to demonstrate RLF financing mechanisms for potential owners of tune-up centers. In addition, FERTS project management could have encouraged a more team-oriented approach in its operations. Many FERTS staff were not aware of other FERTS activities outside their sphere of responsibilities. Through weekly project meetings to share their information, FERTS project staff would have benefited from an integrated view of the project to assist in their own managerial roles on the project.

Was project management facilitative towards building capacity?

FERTS project management was facilitative towards building capacity of those involved with the tune-up centers. However, efforts to build ENERCON capacity were futile given the large rift that had developed between the FERTS project team and ENERCON.

Was sustainability addressed by project management?

An exit strategy that addresses sustainability issues of a post-FERTS environment was addressed in a working paper for the 14th and Final Meeting of the FERTS PSC. The exit strategy consisted of the transfer of FERTS activities to ENERCON staff, and honoring technical support agreements for tune-up centers owners through ECF resources. More specifically, the exit strategy identifies seven positions that require sanctioning for the creation of new posts, the positions all being very important including Deputy Chiefs for Information & Outreach and Planning & Evaluation. The salaries to be received by all transferred staff will be lower than the UNDP-FERTS positions, and hence, present a substantial risk to sustainability in a post-FERTS environment without donor support. Moreover, there are sustainability concerns over the transfer of the ECF management to ENERCON. Several nominated transferred staff expressed their concerns over their ability to continue post-FERTS activities without logistical and financial support that was received by the FERTS team.

Underlying problems with the exit strategy were issues related to the GoP failure to legislate an Energy and Conservation Management Bill that would have provided

ENERCON with autonomy from GoP rules of business. Prior to 1997, ENERCON was an autonomous organization. However, in 1997, ENERCON became an attached department of the Ministry of Environment, and has had difficulties attracting staff to fill its numerous vacancies. As such, this provided a monumental challenge to FERTS to address sustainability issues and establish ENERCON as the agency to continue FERTS activities after the project's conclusion.

What were the overall views of the direct beneficiaries of FERTS?

The Mission visited with a large number of direct beneficiaries of the project as listed in Appendix B including government agencies and institutions involved with fuel efficiency policy initiatives; owners and mechanics of tune-up centers; personnel with training institutes; and vehicle owners. The views of those involved in operating and managing the tune-up centers has been very positive; the tune-up centers are profitable and provide a valuable service to encouraging fuel efficiency. In addition, the view of vehicle owners using the tune-up centers was also very positive. Many of them feel there is a direct benefit to them notably in vehicle performance and fuel savings.

Within the organization of FERTS, ENERCON should be considered as a direct beneficiary given that their capacities were to be enhanced under FERTS. Prior to 1999, ENERCON personnel had managed FERTS. After the mid-term review of 1999, management changes within ENERCON had materialized to improve the performance of FERTS. The outcome of these changes was an understaffed ENERCON management core after 1999. Moreover, the Mission's interviews with remaining ENERCON staff reflects minimal involvement with FERTS since 1999 and the lack of a systematic transfer of FERTS in 1999 to a new ENERCON project manager..

4. CONCLUSIONS AND LESSONS LEARNED

4.1 Conclusions

- FERTS has succeeded in creating awareness of the value of well-tuned engines and its relationship to environmental quality. This achievement is notable due to the successful engagement of the private sector. Awareness of well-tuned engines, however, is confined to private vehicle owners from the upper and middle class. While the proportion of the private vehicles to commercial vehicles is estimated to be in the order of 2:1, the number of Different approaches and additional resources will be required to create awareness of transport fuel efficiency within marginal income groups and commercial vehicle operators;
- FERTS has contributed to poverty alleviation through the training of mechanics and creating new opportunities for SME workshop owners and entrepreneurs. Many of these mechanics and owners will be able to raise the awareness of the urban air quality and the environmental benefits of well-tuned vehicles;
- GHG reductions resulting from tune-up centers were modest. With the increase in the number of road vehicles for transport, sustaining and increasing GHG reductions after FERTS cannot be accomplished solely by promoting engine fuel efficiencies and tune-up centers. Stronger efforts are required after FERTS towards a strategic approach on reducing fuel consumption within the road transport sector. These efforts would include a continuance of special studies on strategic road transport issues;
- The ECF has the potential to provide an excellent vehicle for sustaining the growth of SME fuel efficiency initiatives in Pakistan. However, its success will depend on how it is supported, marketed and managed. The sustainability of tune-up centers as a stand-alone business is questionable given that the current market has been developed through “subsidies” to assist in market penetration. As such, the Mission anticipates that ECF loans to potential purchasers of this equipment are more likely to be auto-repair shops that have other activities that can support the equipment purchase; the tune-up equipment will enhance the profile of the auto-repair shop to the extent that ECF concessionary borrowing rates will be attractive. Hence, ECF marketing and operations will need to be based on a strategic business plan that includes targeted marketing to this niche group of repair shops. More importantly as a first step, it will be important to initiate the disbursements of loans to the interested entrepreneurs;
- The capacity of ENERCON to manage post-FERTS activities requires strengthening. Aside from the FERTS National Project Manager who has returned to ENERCON, there is no corporate memory of FERTS within ENERCON. Clearly, if ENERCON are to manage post-FERTS activities and the ECF, it will require some form of logistical and financial support;
- Concerted efforts by FERTS to incorporate gender into project activities have had modest impacts. This includes raising awareness amongst female drivers of the environmental and health benefits of well-tuned engines and encouraging their

participation in training sessions for mechanics and management of tune-up centers. More comprehensive approaches and planning of activities, however, will be required if gender is to be mainstreamed into future activities including:

- gender sensitive participatory planning;
- improved understanding of the transport needs of women;
- gender-sensitive interventions that can be piloted refined and replicated;
- “level playing fields” for women entrepreneurs who want to setup tune-up centers individually or communally;
- the setup of a gender sensitive monitoring and evaluation network.

4.2 Lessons Learned

Key lessons from this project include:

- *The presence of strong project steering committee mechanism and the proper delegation of authority to the national project director is essential to any project success.* Minutes from FERTS project steering committee meetings and tripartite reviews contained detailed discussions of items critical to the progress of the project and decisive measures to move the project forward. Without the outputs from the project steering committee, FERTS would have been far behind its targets;
- *Specialized expertise can provide significant and timely project benefits.* FERTS was challenged in its efficiency and effectiveness in the delivery of the special studies and RLF outcomes. In both instances, an expert with international experience deployed at the start of each of these components would have increased the probability of better outcomes. This would have included a micro-credit specialist for the RLF and a strategic transport planner for the special studies. In addition, a project management specialist would have provided valuable guidance in the allocation of project resources with a reduced emphasis on the tune-up centers;
- *A structured strategic planning exercise would have facilitated a better outcome from the special studies component.* With the lead of a strategic transport planner, broad priorities of the road transport sector would have been identified with corresponding and appropriate actions within a format of a logical framework matrix. This would include a mission statement (likely reducing fuel consumption in the road transport sector), identification of challenges, identifying strategic priorities (such as strengthening policies and administrative processes, creating awareness, addressing certain transport sub-sector priorities such as commercial and fleet vehicles, and capacity building) and proposing specific actions to address the strategic priorities. Specific actions would have been the basis of special study topics. The qualified strategic transport planner (with international experience) could have facilitated a strategic planning session to elicit responses from participants on contributions to a road transport strategic plan;
- *Flexibilities need to be built into project designs in the event of changes in government policy and commitments.* Prior to its commencement, one of the keys to a fully successful outcome of FERTS was a completely autonomous ENERCON that would have been allowed to operate beyond its mandate as a government organization. Conversely, ENERCON is currently not the autonomous organization

as envisaged, and has been operating since 1997 as a department under the Ministry of Environment with numerous technical positions that have been vacant for years. The establishment of the ECF is an attribute of project design flexibility to allow ENERCON to operate under a company limited by guarantee and on a better platform to further its mandate of promoting energy efficiency and conservation. ENERCON will need to ensure full and effective management of the ECF.

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5. RECOMMENDATIONS

5.1 Recommendations to the Government of Pakistan

The following recommendations provided by this Mission to the GoP are intended to provide strategic actions that will reduce their reliance on imported fuels, improve urban environmental quality and improve their foreign balance of payments:

- Provide commitments (financial and increased technical staff levels) to strengthen ENERCON and its staff. Strong consideration should be given to enacting an Energy Conservation and Management Bill that would return ENERCON to its autonomous status prior to 1997. This would provide incentives for young and experienced professional staff to fill the numerous vacancies in ENERCON, and strengthen ENERCON to meet its objectives of energy efficiency and conservation;
- Provide appropriate support to further the development of the strategically important Energy Conservation Fund (ECF) as a primary means to fund fuel efficiency initiatives for SMEs. This would include formulation of a strategic business plan that will focus ECFs resources towards a niche group of owners (SME vehicle repair facilities); providing administrative and technical support to promote and manage the fund; and supervising existing tune-up centers to maintain standards. Further efforts can also be made towards strategically positioning the ECF (through an ECF business and strategic plan) as a primary financing mechanism for fuel efficiency activities for marginal income vehicle operators and operators of commercial trucks and buses;
- Through appropriate institutions (using ENERCON as a coordinating institution):
 - Conduct strategic planning to determine the country's priorities on improving fuel efficiency in the road transport sector. This would include a mission statement (i.e. reducing fuel consumption in the road transport sector), identification of challenges, identifying strategic priorities (such as strengthening policies and administrative processes, creating awareness, addressing certain transport sub-sector priorities such as commercial and fleet vehicles, and capacity building) and proposing specific actions to address the strategic priorities. Moreover, ENERCON should facilitate the continued advancement of the special studies already in progress at the conclusion of FERTS;
 - Continue programs to remove regulatory barriers to further improvements to fuel efficiency of road transport vehicles including setting of emission standards for all road vehicles and strengthening enforcement capacities of those standards. The GoP has already commenced related programs notably in the follow-up of recommendations from the special study on strengthening of the "Institution of Motor Vehicle Examiners". These activities can be reviewed and expanded to include all road vehicles. Further actions can be taken towards regulating fuel and lubricant quality, and strengthening enforcement capacities for motor vehicle emissions;

- Implement programs to create awareness and actions towards fuel efficiency across a wider demographic in the road transport sector. This would include programs that demonstrate and disseminate economically feasible fuel efficiency options for commercial vehicle operators (trucks and buses) and marginal income operators (auto-rickshaws). Measures may include amongst several options, conversions to alternate fuels, modifications of truck loadings in concert with truck body modifications and changes in road driving behavior. The inclusion of comprehensive gender sensitive programs would only increase the effectiveness of these awareness programs;
- Initiate studies and actions that provide opportunities for larger GHG reductions in the road transport sector. With a growing number of motor vehicles on Pakistan's road system, innovative measures to decrease GHG emissions from this sector are required that will result in decreased on-road vehicle resident time and the duration of person-trips notably on urban road systems. Based on a review of regional sustainable transport initiatives, the GoP can undertake a number of measures including improving traffic management and shifting public reliance of urban transport towards mass transit and non-motorized transport modes. Initiation of these studies and actions, however, will require a thoughtful strategic approach based on available resources and stakeholder adoption at several levels. Stakeholder adoption may be with specific cities within Pakistan that can and are appropriate to host pilot demonstration projects on various measures. If successful, pilot projects will be replicated in other urban centers. Examples of various measures includes:
 - *Incorporation of sustainable transport principles into the planning of new areas.* In a city such as Islamabad, there are several areas slated for development. This represents a unique opportunity for transportation planners to be ahead of the development curve and to coordinate the city's transport infrastructure investments to a certain degree that will develop good public transport corridors in concert with newly development areas;
 - *Encouraging the use of high capacity vehicles through the piloting of premium bus services or bus rapid transit wherever feasible.* The objective of such as service would be to encourage the public to use an affordable public transport service over the use of a private vehicle. Such as service would focus on passenger comfort and convenience that will drive investments towards comfortable buses (preferably on operated by clean alternate fuels) with supporting infrastructure (such as secure and well placed bus stops, feeder transport routes to bus stations, ticketing services that are "user-friendly"). Karachi and Lahore could be candidate cities to pilot such services, and studies can be initiated to establish the commercial feasibility of such services through the private sector;
 - *Piloting segregated pathways for pedestrian, bicycle, "human transporters" and other forms of non-motorized transport.* The focus of such pathways would be to address safety concerns for such modes of transport. They could be planned in concert with city and

land use planning authorities along dedicated transport corridors for bus rapid transit;

- *Increasing awareness of sustainable transport opportunities.* This would involve building the capacity of institutions and individuals to become aware of, champion and manage implementation of sustainable transport opportunities:
 - *Institutional capacity building* can be directed towards creating or strengthening an existing center in its pool of knowledge and housing of expertise. The recipient institution can also be strengthened in terms of its implementation capacity to direct research and coordinate sustainable transport initiatives;
 - *Individual capacity building* can consist of training and skill development for public officials and other appropriate government officials. The objective of this exercise would be to increase the pool of urban transport officials in the country. These individuals would be exposed to valuable project experiences of global and regional urban transport projects.

5.2 Recommendations to UNDP

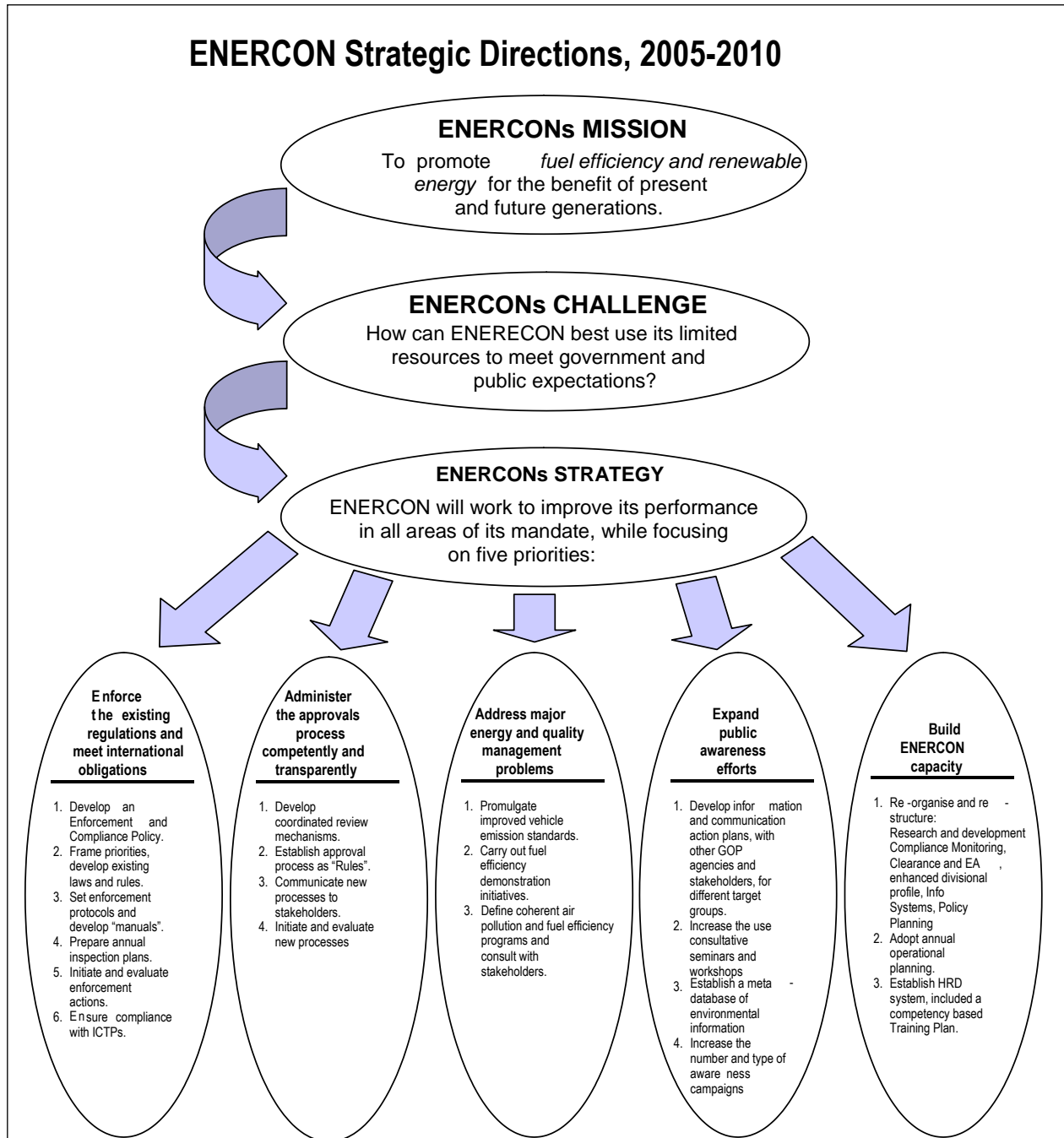
The Mission has made a number of recommendations to the Government of Pakistan on reducing their reliance on imported fuels, improving urban environmental quality and improving their foreign balance of payments. The recommendations are for institutional strengthening of ENERCON (including strengthened support for the management of the ECF) and a continuance of actions that will increase GHG reductions in the road transport sector. If appropriate and agreeable by all concerned parties, the Mission recommends UNDP assistance to the GoP as follows:

- *Support concerted efforts by the GoP for the institutional strengthening of ENERCON* that may include:
 - *Providing expertise to guide strategic planning sessions involving ENERCON personnel.* These sessions will effectively assist ENERCON to define its institutional role in energy conservation and the long-term plans to meet its defined mandate. An example of a strategic plan for the institution is provided in Figure 4;
 - *Assistance to ENERCON to develop its own capacity to effectively direct its institutional development based on its strategic plan, improve its performance and enhance its credibility.* The structure of ENERCON must reflect its potential capacity to deliver its mandate;
 - *Technical assistance to demonstrate fuel efficiency initiatives implemented through the ECF.* This may include assistance in the effective planning of demonstrations of alternate fuels and clean technology usage in commercial vehicle fleets for buses and trucks;

- Providing expertise to maximize the effectiveness of awareness programs. Expertise would build the capacity of ENERCON to motivate people in best practices of fuel efficiency under which environmental awareness could be used as a management tool. As an extension of FERTS, an awareness program for fleet operators in the trucking and bus sectors could be implemented;
- Assistance towards a human resource development programs that will improve the competence and effectiveness of the ENERCON workforce. Programs could consist of personnel matters, performance appraisals, promotion based on competency, training and professional development.
- Solicit commitment of GoP in the development of a follow-up project to FERTS that would support their efforts to promote sustainable road transport across a wider demographic. This can be a comprehensive GEF-funded project to include:
 - A strengthened ENERCON as an implementing agency. The project would include stronger tools to engage stakeholders including ENERCON into ownership of the project. This would include:
 - ⇒ A transparent and collaborative interaction between all stakeholders that will ensure an atmosphere of equality and partnership on all key aspects of project planning and implementation;
 - ⇒ ENERCON staff participation in key project management decisions;
 - ⇒ A commitment to results-based management;
 - ⇒ Extensive information sharing between all concerned stakeholders;
 - ⇒ Improved integration of new project into the operations of ENERCON. This integration would be implemented in parallel with institutional strengthening efforts;
 - Using the ECA-RLF account as an instrument for funding fuel efficiency initiatives;
 - Studies that will support policy development and strategies to reduce transport fuel consumption and pollution through climate friendly transport alternatives (as determined through a strategic planning process). Possible outcomes from a strategic planning process would include:
 - incorporation of sustainable transport principles into the urban design of new developments that would lead to decreased travel demands and improved traffic flows;
 - improved support for public transport and the demonstration of the use of high capacity vehicles to increase public awareness of the advantages of transport corridors and climate friendly technologies;
 - promoting non-motorized vehicles (NMVs) for urban transport through pilot sites that are dedicated and safe NMV passageways for bicycles, pedestrians, and other forms of NMVs;
 - selection of appropriate pilot cities to demonstrate sustainable transport planning, fuel efficient engines, improved public transport systems and NMV corridors;

- strengthening institutional and individual capacities on sustainable transport issues focusing on holistic road transportation issues related to the growth of the vehicle population and urban populations in Pakistan;
 - support for dissemination and raising public awareness on sustainable transport issues in the form of conference presentations, training programs, and audio-visual aids that provide user-friendly outreach to local decision makers and planners, and the public at large; and
 - support to strengthen effective project management as well as monitoring and evaluation so that objectives are met.
- *If the concept of a GEF-funded project as a follow-up to FERTS is acceptable to the GoP, assist in preparations for a PDF B application for such a project that can include the following activities:*
 - Constitute a Project Steering Committee (PSC) and identification of a list of stakeholders at the federal and provincial levels;
 - Detail the sustainable transport measures, models and methodologies to be piloted;
 - Shortlist potential pilot demonstration cities;
 - Negotiate with the short-listed cities, and identify the most appropriate cities through a transparent process led by the PSC;
 - Identify training needs of key stakeholders involved in urban transport planning within all levels of government (federal, provincial and municipal);
 - Design training programs;
 - Design awareness programs;
 - Design knowledge management activities, including identifying lead training or knowledge institute;
 - Design monitoring and evaluation plan;
 - Conduct a log frame workshop to discuss the final project design, costing, financing and responsibilities;
 - Develop GEF and UNDP full project documentation.

Figure 4: Schematic Example of an ENERCON Strategic Plan



Appendix A – Mission Terms of Reference

Terms of Reference for End-of-Project Evaluation

Fuel Efficiency in Road Transport Sector Project (FERTS) PAK/92/G31

1.0 BACKGROUND

1.1 Country Programme Action Plan (CPAP) 2004-2008

UNDP under the mandate of the Country Programme Action Plan (CPAP) with the Government of Pakistan is committed to provide support in designated thematic areas. Under Environmentally Sustainable Development it is said: *It is essential to strengthen the capacity of institutions, dealing with policy formulation and legal and regulatory frameworks under global conventions, to meet national commitments. The development agenda will integrate environmental concerns and build capacity to implement integrated umbrella programmes that respond to the needs of the poor, such as the National Environmental Action Plan (NEAP).*

UNDP-Pakistan's environment projects supports upstream policy advice at the federal and provincial levels and also keeping in view the devolved nature of development issues, on-ground activities are carried out through local institutions and communities. The Energy and Environment Unit of UNDP, Pakistan is working closely with the government counterparts in Economic Affairs Division (EAD) and Ministry of Environment (MoE) as well as NGOs to assist in implementing the national environment agenda. The “**Fuel Efficiency in Road Transport Sector (FERTS)**” is funded by the Global Environmental Facility (GEF) and is seen as one of the major interventions under climate change.

1.2 Introduction to Monitoring and Evaluation Policy in UNDP/GEF

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives:

- i) To monitor and evaluate results and impacts;
- ii) To provide a basis for decision making on necessary amendments and improvements;
- iii) To promote accountability for resource use; and
- iv) To document, provide feedback on, and disseminate lessons learned.

A mix of tools is used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g. periodic monitoring of indicators -, or as specific time-bound exercises such as mid-term reviews, audit reports and final evaluations.

In accordance with UNDP/GEF M&E policies and procedures, all regular and medium-sized projects supported by the GEF should undergo a final evaluation upon completion of implementation. A final evaluation of a GEF-funded project (or previous phase) is required before a concept proposal for additional funding (or subsequent phases of the same project) can be considered for inclusion in a GEF work program. However, a final evaluation is not an appraisal of the follow-up phase.

End-of Project evaluations are intended to identify potential Project design problems, assess progress towards the achievement of objectives, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP Projects), and to make recommendations regarding specific actions that might be taken to improve the implementation or management efficiency of the Project. It is expected to serve as a means of validating or filling the gaps in the initial assessment of relevance,

effectiveness and efficiency obtained from monitoring. The mid-term evaluation provides the opportunity to assess early signs of Project success or failure and prompt necessary adjustments.

Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. Final evaluations also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects.

1.3 Context

Motorization and its growing use has been a major factor in the increased mobility of people, goods and services, and the consequent development and economic progress. While this phenomenon has brought immeasurable benefits, it has not been without deleterious effects. This has been primarily in terms of increased pollutants emitted into the atmosphere from motor vehicle exhausts, congestion, haphazard urban development and land use, oil dependency, and other related problems. A major issue of global concern is the increasing contribution of the transport sector to greenhouse gas emissions resulting from use of fossil fuels, and the consequential global warming and climatic change. Worldwide advances in science and technology, and engineering have resulted in improved vehicle and engine design and maintenance technologies, aimed at minimizing fuel use, increasing speed and engine performance as well as enhancing its life. Such advances have also resulted in the application of newer methods to road construction and design, planned urban development, emphasis on cleaner burning fuels, improved means of public transport and related facilities for the transfer of goods and services. The result of this planning, optimization of resources, and application of scientific methods to address the problem of atmospheric pollution as a result of increased use of motor vehicles has generated positive results in industrialised countries, and presented viable options for addressing the problem.

The development and growth of the industrialised world, however desirable, has not been fully replicated in all spheres of socio-economic activity in developing countries. Even though efforts are evident to duplicate the economic growth patterns of the developed world, the rate of expansion and utilization and development of resources has not occurred in a sustainable manner. While the industrialised countries have been able to create awareness and are currently addressing development-related and environmental issues, the developing world is still primarily concerned with the ever-increasing needs of expanding economies. Concomitant with this, the transport sector in developing countries has barely been able to keep pace with the demands of industrialization. Measures to counter the ill-effects of large motor vehicle populations have been, and continue to be, assigned disproportionately low priorities in these countries as their immediate needs to satisfy transportation demands easily overwhelm any organized and planned approach to transportation management that would otherwise be considered appropriate.

The Global Environment Facility (GEF) was established as a co-operative venture among the national governments, the United Nations Development Project (UNDP), the United Nations Environment Project (UNEP), and the World Bank, to fund activities that benefit the global environment. "Increasing Fuel Efficiency in the Road Transport Sector" was identified as a viable project under the GEF Project for reduction of emissions of greenhouse gases to control global warming.

1.4 PAK/92/G31 – Fuel Efficiency in Road Transport Sector Project (FERTS)

The project aimed to reduce at-source emissions of greenhouse gases and other pollutants by improving fuel efficiency for transport vehicles in Pakistan. The project also aimed to build institutional capacity to

review transport options, expand pilot projects to tune-up urban vehicles, and develop options with regard to technology transfer, regulations and pricing. The original design of the project included the following activities:

- 1) Setting up of 30 tune-up stations throughout the country;
- 2) Training of mechanics to conduct computerised tune-ups;
- 3) Establishing and operating a revolving loan fund to extend loans at nominal charges to workshop owners for establishing additional tune-up centers in the private sector;
- 4) Conducting policy studies for further improvement of fuel efficiency in the road transport sector.

Some of the targets above were revised upwards during project implementation and were reset at:

- 1) Setting up of 50 tune-up stations throughout the country;
- 2) More than 2000 mechanics trained to conduct computerised tune-ups.

2. PURPOSE

As per UNDP/GEF requirement, an end-of-project evaluation is envisaged with the major purpose of evaluating the project's impacts and achievements against the objectives as set forth in the project document, while also evaluating the project's successes and failures, as well as lessons learnt.

Given the above background, the evaluation mission through consultation with all key stakeholders⁶ will undertake the following:

- a) To evaluate whether the project has achieved its objectives as envisaged in the project document and its follow-on midterm evaluation, and determine the socio-economic and environmental impact of project contribution at the community level.
- b) To assess physical work (in terms of quality, quantity, efficiency and effectiveness), review the design and existing operational status of the various components of the project and based on findings provide recommendations for improvement.
- c) To analyze the institutional sustainability of the project, with particular reference to the bodies who would take over the project operation.
- d) To review various operational and cost-recovery systems that are currently in place, and based on the findings, provide recommendations for future.
- e) To identify issues, constraints and lessons learnt during and after the project.
- f) To assess the possibility of replication of similar projects in other parts of Pakistan.
- g) To determine if a follow-on effort needs to be supported by UNDP (other donors) regarding social and institutional aspects of the project, awareness-raising, environment and transport related issues, etc., and if so determined, identify the key objectives and areas of activities of such an initiative.

3. SCOPE OF WORK

3.1 Methodology

The evaluation will be based on an analysis of various documents and consultations with key stakeholders. The key documents to be reviewed are: Country Programme Action Plan (CPAP) 2004-08, Multi-Year

⁶ Key stakeholders include: Office of the Director General (Environment), Ministry of Environment; the Project Team; Ministry of Environment; Economic Affairs Division, ENERCON; UNDP; Private Sector stakeholders; Hydro-Carbon Development Institute of Pakistan; various NGOs; Environmental Protection Agency and customers.

Funding Framework (MYFF), FERTS Project document, UNDP/GEF guidelines for monitoring and evaluation, studies conducted for the Project, progress reports related to the Project, all the Annual Work Plans, budget and financial reports and agreements for sub-contract(s). The mission will also undertake field visits and interview key stakeholders, and government officials of line departments (as listed in footnote 1) based on a structured questionnaire prepared in advance as an aid to systematic data collection and analysis for evaluation purposes.

3.2 Tasks to be Performed

Having reviewed all the key documents and holding consultations with key personnel, the mission will:

- Focus on assessing progress, fulfilling of objectives, impacts and achievements for the full project period, since the commencement of the project in 1996 till September 2005.
- Particular attention shall be given to institutional sustainability, with a focus on the pursuit of an exit strategy as being/have been adapted by the project. In this regard, the mission shall assess various options and get the opinion of ENERCON, EPA and UNDP.
- The mission shall also take into consideration the opinion of customers, private sector and NGOs about the project achievements and environmental and socio-economic impacts. Visits of other tune-up centers, established in the private sector, can also be done.
- Assess the efficiency of Project management, its organizational setup, rules and procedures for its functioning, decision-making process, compliance with the decisions adopted for implementation, including financial management and the delivery of inputs in terms of quality, quantity and timeliness.
- Identify, analyze and record major factors that have facilitated or impeded the progress in achieving the intended outputs and their outcomes (planned and unplanned).
- **Lessons** - Record the significant lessons that can be drawn from the experience of the Project and its results, in particular, anything that worked well and that can be potentially applied to other Projects and can be used in replication, and as a set of best practices.
- **Recommendations** - Based on the above findings, formulate a set of specific recommendations for future sustainability of the project and successful replication.

4. OUTPUT

A comprehensive mission report that would include: assessment of Project concept and design, achievement of objectives (identification of causes of slow progress, if any, and suggestion of remedial measures), lessons learned, and recommendations for its smooth continuation and sustainability. It needs to be ensured that the principle of stakeholders participation in the evaluation is maintained at all times, while ensuring gender-sensitivity.

5. THE MISSION

The mission will comprise of 4 members, 3 consultants recruited by UNDP and 1 representative from the Government of Pakistan. UNDP shall provide a 3-member team of specialists with the international

consultant acting as Mission leader. The Mission leader will be an energy and climate-change expert, having extensive experience in Project formulation, execution and evaluation. Other team members would be a technical expert (national) and a gender specialist (national). The work experience of the team members in developing countries, especially in the South-Asian region, will be an added qualification. The gender specialist shall preferably be a staff of the Gender Unit of UNDP-Pakistan who shall work closely with the mission for provision of specific inputs. Otherwise, a national gender consultant would be hired for a short period. A member each shall represent the Government of Pakistan from EAD and MoE, who would form part of the 5-member mission, under the overall leadership of the Mission Leader.

The staff of Environment Unit UNDP-Pakistan will serve as the resource person and shall actively participate in the review. Environment Unit Chief, UNDP-Pakistan will be the focal point for the review mission.

6. TIME-TABLE AND ITINERARY OF THE EVALUATION

The mission will assemble in UNDP in the second week of September 2005. The duration of the mission is 14 working days. Before departure, the Mission Leader will finalize the report in the light of comments/suggestions of stakeholders and submit to the UNDP Resident Representative for necessary action. Itinerary of the mission is attached.

7. LEGAL CONTEXT

The mission will maintain close liaison with the UNDP Deputy Resident Representative, the concerned agencies of the Government, any members of the Project team, as well as field staff and communities.

Although the Mission should feel free to discuss with the authorities concerned anything relevant to its assignment, it is not authorized to make any commitments on behalf of UNDP or Government of Pakistan.

8. DOCUMENTS TO BE CONSULTED

UN Development Assistance Framework
Common Country Assessment
Country Programme Action Plan (2004-08)
Multi- Year Funding Framework (MYFF)
Project Document
Annual Progress Reports
Project Implementation Review Reports
Budget
Annual Work Plan for 2004/5
Quarterly Progress Reports for 2005

ANNEXURE - TERMS OF REFERENCE FOR MISSION MEMBERS

Background

As part of the result oriented monitoring & evaluation activity, UNDP Pakistan is planning to under take an in-depth final evaluation of Fuel Efficiency in Road Transport System Project (FERTS), which has been in operation since 1996. The purpose of the evaluation is to provide impartially derived first hand information on the end-status of the Project and it's effectiveness in attaining the Project objectives as listed in Project Document. The findings of the evaluation will be useful for understanding the management and technical issues of the Project and will specify the need for assessing activities in order to ensure future sustainability of the project itself. To conduct the evaluation process the Mission Members will perform, but not limited to, the activities summarized for individual Members in the following sections.

Terms of Reference for Team Leader (International)

Duties

The Team Leader will be responsible for the overall coordination of the evaluation process ensuring all tasks mentioned in Section 3.0 of TORs are performed effectively. Briefly, the Team Leader:

- i. Will take initiatives for the effective utilization of the time of other Mission Members and the coordination activities;
- ii. Finalize questionnaire(s) for collecting relevant information from different stakeholders;
- iii. Will keep an effective liaison with all the stakeholders to seek feedback about Project objectives & outputs, on-going activities; the formulation of the exit strategy; qualitative & quantitative assessment of completed/on-going work; and implementation arrangements;
- iv. Will synthesize all the information in the form of a report and fill up Project Evaluation Information Sheet (PEIS) on standard format, ready for presentation to the stakeholders;
- v. Will present the report to the stakeholders, make necessary revisions and finalize it on or before the last day of assignment; and,
- vi. Will debrief the Resident Representative and Deputy Resident Representative on the final recommendations of the evaluation mission.

Reporting Arrangements

The Team Leader will report to the Director Development Division / Deputy Resident Representative, UNDP, and will maintain coordination with UNDP, EAD, MOE, Project staff and other stakeholders

Qualifications

The Team Leader shall be a renowned development practitioner having excellent leadership qualities and skills in supervising multi-disciplinary teams. He/she should have a university degree from a reputable institution, updated information on UNDP's policies, understanding of UNDP/GEF procedures and extensive international experience in the area of Climate Change or the transport sector, particularly in developing countries, in the fields of Project formulation, execution and evaluation. Strong report writing skills, coupled with relevant experience of conducting results-based monitoring and evaluation would be an added advantage.

Terms of Reference for National Expert

Duties

The National Expert, under the overall supervision of the Team Leader to perform tasks mentioned in Section 3.0 of TORs. To perform these tasks the Expert will:

- i. Review the Project strategy in consultation with UNDP, government, Project staff and other stakeholders;
- ii. Develop questionnaire(s) for collecting relevant information from different stakeholders;
- iii. Review the progress against each output as per the originally conceived work plan and subsequent revisions;
- iv. Review the studies conducted under the Project and indicate their significance in terms of their linkage with overall Project objectives;
- v. Critically review and suggest changes in the detailed work plan for the exit strategy of the Project;
- vi. Review the Project monitoring systems including data identification, collection, analysis, and dissemination, Project control and reporting;
- vii. Review the government's strategies and policies and their linkage with the Project;
- viii. Take stock of overall resources for the Project in both physical & financial terms;
- ix. Based on the experience on similar Projects (national or international), evaluate the Project in terms of achievements; and,
- x. Assist the Team Leader in synthesizing all the information in the form of report and present the report to UNDP, government and other stakeholders

Reporting Arrangements

The National Expert will report directly to the Team Leader of the Evaluation Mission.

Qualifications

The Technical Experts shall be qualified environment and energy specialist, with at least 10-years of national experience of environmental Projects. The National expert shall also have sufficient experience and a clear understanding of UNDP/GEF policies. Strong report writing skills would be essential.

Terms of Reference for Gender Specialist (National)

Duties

The Gender Specialist, under the overall supervision of the Team Leader, will perform the following tasks:

- i. Review the Project and assess level of gender mainstreaming;
- ii. Identify the role of women in the Project activities and achievements of objectives;
- iii. Actively involve in the performing tasks mentioned in Section 3.0 of TORs in close coordination with other Mission Members; and,
- iv. Assist the Team Leader in writing and presentation of the report.

Reporting Arrangements

The Gender Specialist will report directly to the Team Leader.

Qualifications

The Gender Specialist shall possess at least 10-years of relevant experience with a degree in social science and be fully aware of the gender issues in the local context. He/she shall also have a clear understanding of UNDP's policies on gender and the possible implementation strategies for gender mainstreaming.

Terms of Reference for MoE Representative

Duties

The MoE Representative will participate in the evaluation process under the overall supervision of the Team Leader. Briefly, he/she will perform the following tasks:

- i. Act as the focal point on behalf of the MoE for the Project and assist in organizing meetings with the officials of MoE and counterpart agencies;
- ii. Facilitate access to the government documents related to the Project or any other document required by the mission for completing the assignment;
- iii. Actively involve in the performing the tasks mentioned in Section 3.0 of TORs in close coordination with other Mission Members; and,
- iv. Assist the Team Leader in writing and presentation of the report.

Reporting Arrangements

The MoE Representative will report to the Team Leader and will maintain coordination with UNDP, EAD, MOE, Project staff and other stakeholders.

Qualifications

The person should have extensive experience of execution of donor funded Projects and governments procedures for the implementation of such Projects. He/she shall have a clear understanding of NEAP-SP and the related environmental impacts on different sectors. He/she shall also be aware of the overall portfolio of on-going and planned environmental Projects.

Appendix B - List of Persons Interviewed and Documents Reviewed

This is a listing of persons contacted during by the Evaluation Team during the September 23 to October 8, 2005 period. The Mission is grateful to all those who made time during their busy schedules to provide the Mission with valuable information for the evaluation, and apologizes for any omissions to this list.

September 23, 2005:

- 1) Mr. Haoliang Xu, Country Director, UNDP Pakistan
- 2) Mr. Arif Alauddin, ARR, UNDP Pakistan
- 3) Mr. Abdul Qadir Rafiq, Programme Officer, UNDP Pakistan
- 4) Ms. Nida Waseem Khan, Young Professional Officer, UNDP Pakistan

September 24, 2005:

- 5) Mr. Zia-ul-Haq, MD, ENERCON / NPD FERTS Project
- 6) Dr. Sarwar Saqib, NPM, ENERCON / FERTS Project Team
- 7) Mr. Naeem Bari Salimi, Manager (Diesel), ENERCON / FERTS Project Team
- 8) Mr. Jalil Ahmad, Manager (Petrol), ENERCON / FERTS Project Team
- 9) Mr. Shahrukh Paracha, ENERCON / FERTS Project Team
- 10) Mr. Iftikhar Raja, ENERCON / FERTS Project Team
- 11) Mr. Nasim Ahmad, Manager Special Studies, ENERCON / FERTS Project Team
- 12) Mr. Khalid Latif Chowdhury, Secretary, Ministry of Environment

September 26, 2005 (Karachi)

- 13) Ms. Engr. Farida Essa, Consultant on Special Studies, ARCH VISION, 405-406, Shaes Centre, B-25, Block 13C, Gulshan-e-Iqbal, Main University Road, Karachi
- 14) Mr. Sohaib-ur Rehman Sheikh, Fikree Automobile, Karachi
- 15) Mr. Rehmat Khan, Khan Motors, 53-C, Main National Highway Near Absa School, DHA Phase-II, Karachi
- 16) Mr. Ghulam Ali Fadoo, Mr. Ali Fadoo, and his team at Toyota Defence Motors, Main Korangi Road, Karachi

September 27, 2005 (Quetta)

- 17) Brig (R) Iftikhar Ahmed, PSO Askari Petroleum CNG Station, Askari Park Airport Road, Quetta
- 18) Mr. M Shahzad, International Motor Workshop, Shahrah-e-Adal, Opposite District Courts Off Zargoan Road, Quetta

September 28, 2005 (Lahore)

- 19) Col (R) Nawab Ali, Consultant on Special Studies, PROMARK, 106-D/2, WAPDA Town, Lahore.

September 29, 2005 (Lahore)

- 20) Mr. Tariq Shriq, Toyota Walton Motors, Main Walton Road, Lahore Cantt., 042-111-008-009, 6675370
- 21) Ch. Mukhtar Ahmed, PSO Civic Centre Filling Station, Garden Town, Lahore. 042-5837803 & 5831623
- 22) Mr. Nihal Asghar, SEAL, 2nd Floor, 85 Commercial Area, Cavalry Ground Extension, Lahore Cantt, Tel: 636-4235, 636-0121
- 23) Dr. Badar Ghuri, SUPARCO

September 30, 2005 (Shikhpura)

- 24) Mr. Amir Ehsan Sheikh, The Auto City, Faisalabad Road, Sheikhpura, 04931-614014, 0333-4408814

October 01, 2005 (Islamabad)

- 25) Mr. KM Zubair, Chief ENERCON
- 26) Mr. Javid Qureshi, Deputy Chief Transport ENERCON

- 27) Mr. Javid Ali Khan, Director, ENERCON

October 03, 2005 (Islamabad)

28) Mr. Asif Shuja Khan, Director, Pak EPA

October 08, 2005 (Islamabad)

29) Mr. Hilal A. Raza, DG, HDIP

Documents reviewed for this evaluation includes:

- 1) Ministry of Environment (1992) National Conservation Strategy, Government of Pakistan.
- 2) Pakistan's National Conservation Strategy: Renewing Commitment to Action, Report of the Mid-term Review, by A.J. Hanson, S. Bass, A.Bouzaher, G.M.Samdani, M.Zehra, November 2000.
- 3) UN Common Country Assessment
- 4) UN Country Programme Action Plan (2004-08)
- 5) UN Development Assistance Framework
- 6) UNDP (1996) Pakistan: Fuel Efficiency in the Road Transport Sector. Project Document
- 7) UNDP FERTS Annual Progress Reports
- 8) UNDP FERTS Project Implementation Review Reports
- 9) UNDP FERTS (1998) Performance Indicators for Fuel Efficiency in Road Transport Sector Project
- 10) UNDP FERTS (1999) Pakistan: Fuel Efficiency in the Road Transport Sector, Mid-term Review Evaluation.
- 11) UNDP FERTS (1999 – 2003) Pakistan: Fuel Efficiency in the Road Transport Sector, Project Implementation Review.
- 12) UNDP FERTS (2000a) Pakistan: Fuel Efficiency in the Road Transport Sector. Tri-partite Review
- 13) UNDP FERTS (2000b) Identification of Special Studies for FERTS
- 14) UNDP FERTS (2000c) Communication Strategy for FERTS
- 15) UNDP FERTS (2001) Gender Strategy for FERTS
- 16) UNDP FERTS (2002a) Computation of Project Performance Indicators on Degree of Enforcement of Regulations to check Over-Loading Practices
- 17) UNDP FERTS (2002b) Strengthening the Institution of MVE in Pakistan
- 18) UNDP FERTS (2002c) Study on Institutionalized Training of Drivers/Controlling Organizations in Pakistan
- 19) UNDP FERTS (2002d) Study on Self-Regulation to Control Overloading of Trucks by the Trucking Industry of the Country.

- 20) UNDP FERTS (2004-5) Annual Work Plan
- 21) UNDP FERTS (2005) Quarterly Progress Reports
- 22) UNDP FERTS (Sept 2005) Budget Revision “AA”

Appendix C – Mission Itinerary

Schedule for the Evaluation Mission

23 Sept to Oct 8 2005
PAK/92/G31

23 Sept 2005, Fri	(Arrival of Mission in Islamabad)
1030	Meeting with the DRR (Programs)
1100-1130	Evaluation Team meeting with Energy and Environment Unit
1130-1700	Evaluation Team meeting
24 Sept 2005 Sat	(Islamabad)
10:30-1330	Meeting with ENERCON and FERTS Project Team with presentation
1400	Meeting with the Secretary, Ministry of Environment Lunch break
1530	Visit with tune-up station in Islamabad
25 Sept 2005 Sun	(Islamabad - Karachi)
	Travel to Karachi by air
26 Sept 2005 Mon	(Karachi)
1000	Visit to private tune-up center at Shell Pakistan
1100	Visit to the offices of ARCH-VISION, Special Study consultant
1230	Visit with Khan Motors 53-C Main National Highway near Absa School
1330	Meeting with Toyota Defense Motors, Main Korangi Road
1800	Meeting with Fikree Automobiles and Automotive Training Center
27 Sept 2005 Tue	(Karachi-Quetta)
	Travel to Quetta by air Visit to PSO Askari Petroleum CNG Station, Askari Park Airport Road
28 Sept 2005 Wed	(Quetta-Lahore)
	Travel to Lahore by air Meeting with PROMARK, Special Study consultant, 106-D/2, WAPDA Town
29 Sept 2005 Thu	(Lahore)
1000	Visit to Ahsan Zakir Motor Engineers, 3-Lawrence Road
1100	PSO Civic Centre Filling Station, Garden Town
1230	Toyota Walton Motors, Main Walton Road,
1800	Meeting with SEAL and SUPARCO, 2nd Floor, 85 Commercial Area, Cavalry Ground Extension – Special Studies consultants
30 Sept 2005 Fri	(Lahore-Sheikhupura-Islamabad)
0900	Travel to Islamabad via Sheikhupura
1000	Visit to the Auto City, Faisalabad Road, Sheikhupura
01 Oct 2005 Sat	(Islamabad)
	Meetings with individual ENERCON officers and FERTS staff
03 Oct 2005 Mon	(Islamabad)
	Meetings with various FERTS officers
1300	Meeting with Pak EPA
04 Oct 2005 Tues	(Islamabad)
	Compilation of information by Evaluation Team Meeting with ARUP – a partner
05 Oct 2005 Wed	(Islamabad)
	Meeting with the Project Steering Committee and presentation by the Evaluation Team

6-7 Oct 2005 Thu/Fri (Islamabad)

Review of Evaluation Report comments by Evaluation Team
Project – an introduction
Meeting with owners of demonstration centers
Lunch break
Meeting with MCG – a consultant
Meeting with JICA
Meeting with ARUP – a partner

08 Oct 2005 Sat (Islamabad-Karachi)

Meeting with the Hydrocarbon Development Institute of Pakistan
Departure of Mission Leader from Islamabad

Appendix D – Logical Framework (Log-Frame) Project Planning Matrix

Appendix D – Log-Frame Matrix of FERTS-II (Phase 2) (status in ***bold italics*** as of September 2005)

	Project Strategy	Objectively Verifiable Indicators	Sources of Verification	Assumptions
	<p>Development Objective (Impact) Reduction at source emissions of greenhouse gases (GHGs) and other pollutants by improving fuel efficiency of road transport vehicles in Pakistan (<i>Annual GHG reductions estimated to be 270,000 tonnes. Other pollutant reductions are modest</i>)</p>			
I	<p>Immediate Objectives (Outcomes) Development of a market for instrumented tune-ups through tune-up demonstration and training Centers <i>(market has been developed that has mainly attracted private vehicle owners from the middle to upper income classes and <u>not</u> commercial vehicle operators)</i></p>	<p>Outcome Indicators</p> <ul style="list-style-type: none"> • Number of instrumented tune-up facilities available in the country (<i>over 50 facilities are now available directly from FERTS involvement and over 400 facilities without FERTS involvement</i>) • Communication strategy developed and mass awareness campaign executed / implemented (<i>strategies and campaigns developed along supporting IEC materials</i>) • Trainings of workshop owners and automotive mechanics conducted (<i>Training of 895 workshop owners (against a target of 360) in 40 workshops; and training of 2075 mechanics (against a target of 600) in 86 workshops</i>) 	<ul style="list-style-type: none"> • Project records and reports • Conduct of surveys • Press clipping • Media events / joint campaigns • Budget spent on program promotion • Lists of successful trainees • Certificates awarded • Independent feedback from trainees 	<ul style="list-style-type: none"> • Policy interventions like vehicular emission standards are properly implemented and revised as required
II	<p>Completion of special studies to identify long-term options and to prepare policy recommendations for sustaining fuel efficiency in the road transport sector (<i>12 out of 15 studies completed. No policy recommendations have yet been made as a result of these studies. This may change in future.</i>)</p>	<ul style="list-style-type: none"> • Viable projects developed (<i>4 studies thus far have been adopted for follow-up leading to possible policy formulation</i>) • Policy recommendations developed (<i>4 studies thus far have been adopted for follow-up leading to possible policy formulation</i>) • New sustainable options developed 	<ul style="list-style-type: none"> • Project records and reports • Photographs / reports of the meetings / workshops • Briefs on interventions / new projects 	<ul style="list-style-type: none"> • There are commonalities in the objectives of the project and its stakeholders • Resources are mobilized to implement the projects

	Project Strategy	Objectively Verifiable Indicators	Sources of Verification	Assumptions
		<p><i>(Study on RLF feasibility that would provide financing for instrumented tune-up equipment)</i></p> <ul style="list-style-type: none"> Millennium Development Goals (MDGs) quantified (<i>none quantified</i>) 		
III	Establishment of a revolving fund for financing the purchase of tune-up equipment (<i>fund established but has not yet disbursed any loans</i>)	<ul style="list-style-type: none"> Number of loans disbursed (<i>none</i>) Number of tune-up stations established in the private sector (<i>over 400 but not from financing from the RLF</i>) Amount (or %age) of RLF disbursed (<i>none</i>) Amount (or %age) of RLF recovered (<i>none</i>) 	<ul style="list-style-type: none"> Records and reports of ECF Project records and reports Photographs of stations Details of stations 	<ul style="list-style-type: none"> Board of Directors approves the positive list
1.1	<p>Outputs / Components</p> <p>Establishment of 50-demonstration instrumented tune-up (total) for road transport vehicles</p> <p>Activities</p> <ul style="list-style-type: none"> Preparation of equipment specifications Selection of participants and sites of demonstration centers Procurement of equipment Establishment of demonstration centers 	<p>Output Indicators</p> <ul style="list-style-type: none"> Specifications finalized Participation agreements signed Procurement orders placed Equipment received Demonstration centers established <p><i>(over 50 demonstration centers established)</i></p>	<ul style="list-style-type: none"> Project records and reports Minutes of TRG / PSC meetings Participation agreements Purchase orders / delivery documents Photographs and press releases 	<ul style="list-style-type: none"> Vendors deliver and commission equipment on schedule, and provide spares and back up services promptly. Relevant regulations on vehicular emissions are in place and strictly implemented
1.2	<p>Conduct of 20 training courses for workshop owners *</p> <p>Activities</p> <ul style="list-style-type: none"> Identification and selection of training partners / trainers Selection of prospective participants 	<ul style="list-style-type: none"> MOUs signed Workshop owners selected 2-day courses conducted 	<ul style="list-style-type: none"> Project records and reports MOUs Lists of selected candidates 	

	Project Strategy	Objectively Verifiable Indicators	Sources of Verification	Assumptions
	<ul style="list-style-type: none"> Conduct of 2-day training courses for workshop owners and mechanics 	<ul style="list-style-type: none"> Workshop owners trained (40 workshops for over 895 prospective workshop owners) 	<ul style="list-style-type: none"> Photographs Workshop reports Copies of letters available 	
1.3	<p>Conduct of 20 training courses for automotive mechanics *</p> <p>Activities</p> <ul style="list-style-type: none"> Identification and selection of training partners / trainers Selection of prospective participants Conduct of 3-week training workshops for automotive mechanics 	<ul style="list-style-type: none"> MOUs signed Automotive mechanics selected 3-week courses conducted Automotive mechanics trained (86 workshops for over 2075 mechanics) 	<ul style="list-style-type: none"> Project records and reports MOUs Lists of selected candidates Photographs Workshop reports Copies of letters available 	
1.4	<p>Promoting awareness on instrumented tune-ups</p> <p>Activities</p> <ul style="list-style-type: none"> Appointment of advertising agencies Development / revision of communication strategy Preparation / updating of publicity materials Launching / continuation of publicity campaign in print and electronic media Organization / conduct of free tune-up camps and similar activities throughout the country Updating of web page Publication of quarterly newsletter 	<ul style="list-style-type: none"> Advertising agencies brought on board Revised communication strategy Handouts, brochures prepared Advertisements prepared and placed in the press Free tune-up camps held, and similar outreach activities carried out World Environment Day and similar events organized / celebrated Web page updated Quarterly newsletters published (Targeted awareness campaign implemented successfully) 	<ul style="list-style-type: none"> Project records and reports Minutes of PSC meeting Media events / joint promotional activities News clippings / photographs 	

	Project Strategy	Objectively Verifiable Indicators	Sources of Verification	Assumptions
2.1	<p>Complete 15 special studies *</p> <p>Activities</p> <ul style="list-style-type: none"> • Conduct of special studies • Organization and conduct of peers review meetings • Planning, organization and conduct of dissemination workshops • Follow up of completed studies <p>(12 out of 18 studies, 3 are still pending completion and 3 were dropped)</p>	<ul style="list-style-type: none"> • Studies conducted (18 studies conducted with 12 completed, 3 pending completion and 3 dropped) • Peers review held (peer review conducted) • Dissemination workshops held (two dissemination workshops held) 	<ul style="list-style-type: none"> • Project records and reports • Contracts issued • Proceedings of meetings • Attendance sheets • Study reports • Photographs 	<ul style="list-style-type: none"> • Capacity to conduct the studies is available within the country, otherwise expatriates are brought on board • Security situation is conducive for expatriates to visit and conduct the studies / activities • Consultants deliver the deliverables as per agreed timeframe
2.2	<p>Establishment of model inspection and certification center</p> <p>(need identified in an already completed study)</p> <p>Activities</p> <ul style="list-style-type: none"> • Bringing on board of stakeholders • Identification and arrangement of technical assistance required for development of documentation • Preparation of technical design, action plan and documentation • Development of strategy and guidelines for replication of model testing and certification centers in other major cities of the country • Identification of framework / mechanism for sustainability of the center • Approval and finalization of implementation details <p>(funds allocated to ENERCON for this purpose were returned to the Government of Pakistan)</p>	<ul style="list-style-type: none"> • Stakeholders brought on board • Technical assistance arranged • Complete documentation prepared / finalized • Documentation approved by PSC <p>(not established)</p>	<ul style="list-style-type: none"> • Project records and reports • Minutes of PSC meetings 	<ul style="list-style-type: none"> • Commitment of the GOP is high • Relevant inspection regulations are in place and revised, if required • Commitment of concerned agencies is high • Capacity to conduct the activity is available within the country, otherwise expatriates are brought on board • Security situation is conducive for expatriates to visit and conduct the activities • Consultants deliver the deliverables as per agreed timeframe

	Project Strategy	Objectively Verifiable Indicators	Sources of Verification	Assumptions
3.1	<p>Operational Revolving Loan Fund [†]</p> <p>Activities</p> <ul style="list-style-type: none"> • Study the feasibility of establishing an RLF through consulting assistance • Consultations with potential operating partners of the RLF including government agencies and the private sector • Design RLF implementing and management structure • Secure the services of a financial institution to manage the RLF • Disburse loans • Recover loans <p>(RLF was only established and does not yet have operational experience)</p>	<ul style="list-style-type: none"> • Availability of RLF study (available) • Identification of private and public sector operating partners (already identified) • Charter of RLF operation (available but not yet tested) • Agreement with financial institution (available) • Operations records of the RLF (not yet operational) 	<ul style="list-style-type: none"> • Project records and reports • Minutes of PSC meetings 	<ul style="list-style-type: none"> • Commitment of the GOP is high • Relevant inspection regulations are in place and revised, if required • Commitment of concerned agencies is high • Capacity to conduct the activity is available within the country, otherwise expatriates are brought on board • Security situation is conducive for expatriates to visit and conduct the activities • Consultants deliver the deliverables as per agreed timeframe

* Corrections were made from original LFA which did not include cumulative numbers of workshops and studies to be completed for the entire FERTS project.

[†] Component 3.1 was added to the original LFA received from information inferred from the 2005 APR

Appendix E – Questionnaire Formats

TUNE-UP CENTER SURVEY (PAK/92/G31)

Questionnaire – 1: Client of Tune up Center

Date	
Name:	
Date of Tune Up	
City:	
No of previous visits	
Make of Vehicle	
Type	CNG/Petrol/Diesel
Fuel Consumption Noted	Yes/No
Fuel Consumption	Before After
No of Vehicles Tuned Daily:	
Vehicle Performance after Tune up:	<ul style="list-style-type: none"> ➤ Improvement ➤ Some what better ➤ Same ➤ Not as Good ➤ Terrible
Performance considerations:	<ul style="list-style-type: none"> ➤ Starting ➤ Power ➤ Smooth acceleration ➤ Knocking ➤ Smoke
Services of the Tune up center:	<ul style="list-style-type: none"> ➤ Professional ➤ Courteous ➤ Satisfactory ➤ Poor ➤ Very Poor
Would you continue?	Yes/No
Would you recommend to others?	
Why are you at the Tune up center? To save Fuel Cost Reduce Pollution Car was running poorly Improve Performance To try some thing new It was a time for tune up Conventional location No specific reason	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

TUNE-UP CENTER SURVEY (PAK/92/G31)

Questionnaire – 2: Owner of Tune up Center

Date	
Name:	
Address:	
City:	
Phone & Fax Nos:	
Date of Establishment:	
Facility:	Petrol/Diesel
No. Of Staff:	
Training of the Staff	
No of Vehicles Tuned Daily:	
Charges per Vehicle:	
Duration of Tuning	
No of Analytical Equipment:	
Calibration Status:	
Safety Measures:	
Emission	Before Tune Up After Tune Up
CO	
CO₂	
CH	
SO₂	
NO_x	
SPM	
RPM	
Efficiency Improvement:	
Gender Approach: Visit of Ladies:	
No of Ladies Visiting the center for tuning:	
Sustainability:	
Problems:	
Remarks:	
Others:	

Appendix F – FERTS Gender Evaluation Report

Fuel Efficiency Road Transport (FERTS) Project Findings of the Final Evaluation Team Oct 5, 2005.

by

Jehan Ara Mueen (Gender Specialist)

Gender and Sustainable Development

In 1992, at the United Nations Conference on Environment and Development (UNCED), the major emphasis was on sustainable development. Many areas of sustainability and development were covered, but the issue of environment predominated others. The Earth Summit recognized that one important objective for ensuring sustainable development was to incorporate the participation of women into the programme areas of Agenda and help to generate global awareness about the role of women in promoting sustainable development.

The concept of bringing gender issues into the mainstream of society was clearly established as a global strategy for promoting gender equality in the Platform for Action adopted at the United Nations Fourth World Conference on Women, held in Beijing (China) in 1995. It highlighted the necessity to ensure that gender equality is a primary goal in all areas of social and economic development. Pakistan is among the 189 UN member States, which adopted the Beijing Declaration. The key actions implemented by Government of Pakistan include establishing the National on the Status of Women and the formulation of a policy for Development and Empowerment of Women. The Ministry of Environment, Local Government and Rural Development formulated a gender strategy in 2000, by integrating provisions of Agenda 21, Pakistan's National Conversation Strategy and Beijing Platform for Action. As a follow up to the Forth Conference on Women, held in Beijing in 1995, the Ministry Of Women's Development (MoWD) initiated action on para297 of the PFA, relating to the formulation of a Plan of Action. One of the important strategic objectives of the NPA is:

“Implement National and International provisions pertaining to women and environment/ sustainable development. Ensure participation of women at all levels in environmental decision making as managers, planners, implementers and evaluators of environmental projects/ programmes by establishing channels of communication and linkages with NGOs, CBOs, interest groups and individuals involved in this field.”

Gender Mainstreaming:

Mainstreaming a gender perspective was defined as the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in any area and at all levels (ILO,97) It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetuated, The ultimate goal of mainstreaming is to achieve gender equality.

The National Plan of Action (NPA), which is the Government of Pakistan's policy on Women and Development, expresses the Governments commitment to women's advancement and has been adopted by each line Ministry as the guiding document for gender integration.

The original project document, as incorporated in the PC-1, August 1995, did not include an explicit gender component. An independent Mid-Term Evaluation Mission in October 1999 noticed the absence of the gender dimension, analyzed the situation for the remaining project term and explored possible strategies to integrate gender aspects. The Mission recommended the need to develop gender strategy for the project and to ensure that appropriate gender considerations are maintained within the project.

The Government of Pakistan firmly believes in the need to advance the cause of women and therefore adopted the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW). UNDP is assisting in preparing a national programme for the implementation of CEDAW. FERTS' MTE (1999) also emphasized gender issues and increasing sensitivity towards women drivers in a largely male-dominated sector. In this regard, FERTS is not only ensuring that tune-up training is gender sensitive but also provided special discounts to women drivers bring their vehicles to tune-up centers (PIR, 2002)

A gender strategy for the FERTS project was developed in 2001. Although the FERTS project was by this time half way through, and the gender integration being an after thought, an effort was made to address the strategy to women's participation in each of the broad areas of Project intervention; tune-up stations, awareness campaigns, revolving loan fund, special studies and equal benefits for stakeholders.

Gender Strategy and FERTS Project:

The Gender Strategy draws its strength from the traditionally and culturally perceived role of women, in this part of the world, as nurturers and caretakers as against the role of men as providers. For women, the well being of the family is of utmost importance; she sees her foremost role within the family to properly feed and clothe and maintain health. Linking this instinctive nature of females with FERTS fuel efficiency activities was viewed to have a very positive impact.

Immediate Objectives:

- ❖ Integration of female gender in FERTS project should be adopted as a first step leading to fuel efficiency and an economy with reduced pollution and a clean and healthy environment;
- ❖ Disseminate information aimed at identifying various issues of vehicular emissions causing hazards of air pollution and impact of the same generally on human health and life, particularly on the health and life of women and children;
- ❖ Familiarize the target population particularly females about the system of instrumental diagnostic tune ups benefits of the same. The need for regular adherence to the tune up schedule for proper maintenance and longevity of vehicles, reduced repair and spare bills as well as for combating the menace of vehicular emission and air pollution.
- ❖ Female population should be specifically informed about the simplicity of diagnostic tune ups for overcoming inhibitions and fears of un-known and exploitation.

Development of Market for instrumented Tune-Ups

Observations of the Evaluation Mission in Karachi, Islamabad, Lahore, and Quetta:

- ❖ The tune-up centers are mostly located at the gasoline station sites, under the FERTS programme of ENERCON;
- ❖ One Tune-up center at Karachi, located at a Shell Petrol station, is owned by Shell and is sustainable without ENERCONS support;
- ❖ The average proportion of female drivers who come for tuning of their vehicles is between 5 and 10%;
- ❖ Follow up surveys were not done to document client satisfaction and to verify fuel savings;
- ❖ Glass walled office area in the tune-up bay is used as an office of the supervisor, and the same is used as a waiting room for customers;
- ❖ The number of females in the business of tune-up centers is still low with only two in Islamabad. One is an owner of gasoline station and the other is an owner of Azim Motors, dealers of Suzuki Motors. In spite of their presence in a male oriented business, both feel that this business is not an easy task. The male counterparts still tend to undermine their business acumen.
- ❖ FERTS is not only ensuring that tune-up training is gender sensitive but also provides special discounts to women drivers bringing their vehicle into tune up centers (PIR, 2002)

An increasing number of women with social and economic responsibilities are car owners as well as drivers. These women generally from middle-class families drive children to school, visit health clinics, travel to work or go shopping for groceries. While women feel extremely confident behind the wheel, they still have a tendency to shy away from vehicle maintenance as this is left for the male members of the family, the main reasons being: a) the women lack technical awareness about their vehicles; and b) workshops are generally not “women friendly”.

Following the MTE (1999), which emphasized the importance of gender sensitivity, FERTS started to make concerted efforts to bring women to the traditionally accepted domain of men by encouraging women to participate as entrepreneur’s in setting up vehicle tune-up centers and also providing training opportunities. Trainings of workshop for owners and mechanics specially focused to make training gender sensitive so that the women drivers would be treated with a certain amount of respect when they visited the tune up centers. The project provided initial discounts to women who took their cars for tune- ups and encouraged women workshop owners/entrepreneurs to host tune-up centers within their garages. The Study team also visited the FIKRI Automobiles Training Institute (FATI) in Karachi. We were told that among 26 mechanics, 2 participants were women. On seeing the immense interest shown by the women in the vehicle mechanics workshop, the prerequisite minimum qualification was a waived. The main interest of the two female participants in this workshop was to learn about the mechanics of their car and thus be able to look after its maintenance in a better way.

General Observations of Women Drivers During FERTS Tune-Up Campaigns

1. It was a great incentive for them, as being homemakers any savings made mattered a lot. The campaign not only provided then immediate saving but also resulted in daily and long term savings through instrumented tune-ups of their cars.
2. Majority of the respondents were very happy that ENERCON and FERTS involved women directly in their campaigns and provided them opportunities to stand by men as equals. Although some used terms like gender equity and gender integration, the spirit behind all of them essentially was that ENERCON has approached them straight and direct as equal citizens of Pakistan not only through discount on tune-ups but also through press advertisements in major newspapers on the International Women’s Day.
3. All respondents expressed the desire to have more discounts on tune-ups, and involve them more in overall conservation. One respondent said, “ aaj kal aik bhi bachaya hua paisa bahout ahmiyat rakhta hai”(Even a single paisa saved these days is of phenomenal importance)
4. Majority of the respondents were drivers, and they equated driving as an access to opportunities, ready mobility, freedom of movement, and a means to involve themselves productively in all affairs; from using cars to buy groceries to go to work or to take a sick child to hospital. All of thought that instrumented tune-ups meant safer and hazard –free driving for them, providing them driving pleasure and savings simultaneously.

From “Computing the Performance Indicators to Assess Level of Awareness of Citizens Towards Negative Effects of Vehicular Pollution / Emissions, Final Report Feb 2002”, Sustainable Resource Foundation (SURF)

Specially designed IEC awareness material and campaigns were launched targeting women drivers. The FERTS campaign “What is Happening to Our Cities?” through print media raised awareness about pollution in general and vehicular pollution in particular.

Vehicular Emission and Human Health

- ❖ According to most respondents, vehicular pollution caused immediate damages to respiratory tract, and was also responsible serious upper and lower tract respiratory infections, infections like persistent cough, redness of eyes, nose irritation, skin rashes, allergies and asthma, causing breathing problems.
- ❖ Some of the respondents were able to relate to the long lasting environmental damages through build up of green house gasses, erosion of the Ozone layer and skin cancers.
- ❖ Some of the respondents thought that the presence of lead in gasoline was a major cause of infirmities due to vehicular pollution.
- ❖ Majority of the respondents had no hesitation in saying that the FERTS media mix communication campaign had significantly contributed to their level of awareness in drawing out relationship between vehicular pollution and health.

From "Computing the Performance Indicators to Assess Level of Awareness of Citizens Towards Negative Effects of Vehicular Pollution / Emissions, Final Report Feb 2002, Sustainable Resource Foundation (SURF)

Although the FERTS Project made efforts to solicit participation from women and gave incentives like initial discounts, and facilitation to set up Tune up centers in their garages, The advertisement in the newspapers did not convey the spirit, except for a line at the end of the advertisement saying "Women are encouraged to apply" another advertisement announcing vacancies for Project Engineer and Workshop Supervisor carried by the Baluchistan Times on Wed 26. Jan 2000 had a set of criteria i.e qualifications and experience that no women would measure up to and even though the advertisement did manage to say in the end, "Women are encouraged to apply". No women applied for the vacancies. Unless gender is mainstreamed and women are encouraged to participate in the activities as competent and qualified individuals, a one liner at the end of an advertisement is a mere eyewash.

IEC Materials

The available IEC materials dealing with Fuel saving driving habits, wheel alignment, tire maintenance, diesel engine diagnostics and drivers energy efficiency tips etc. are very informative but a little too technical in nature and not very women driver friendly.

The advertisements developed for the FERTS campaign encouraging women to visit tune- up centers are deficient in their real message and seems that a pretty women's picture has been splashed as an after thought as a marketing gimmick.

Review of FERTS Communications Strategy (FCS):

1. The FERTS Communication Strategy is a very well developed document dealing with the need for communications objectives, media intervention both electronic and print and behaviour change through communication.
2. The FCS depicts a clear understanding of the issues of vehicular pollution, the demographic and psychographic profiles of the target groups, strategic selection and placement of different communication products in the media and use of different communication channels to disseminate information.
3. 'Demand creation' is a pivotal role of FCS, and its success is directly dependent on timely installation, employment of proper trained manpower and efficient service by the FERTS auto-tune-up centres.
4. Since implementation of the FCS is divided into different communication objectives at different stages, its reliance on FERTS tune-up centres installation and efficiency becomes strategically important at each "phase" in the project success.

5. The FCS, from the communication angle is a very integrated in the sense that it combines the basic principles of social marketing, successful commercial communication and the right media mix, which is makes it integral with the overall activities of the FERTS project. In other words the GCS has not been prepared in vacuum and represents communication support to the project as a means to achieve overall project objectives.

Behavior change communication is not an easy task by any standards, especially where the awareness and education level is poor regarding environmental issues and their impact on humans and ecological systems. Behavior change requires arriving at a precise, correct and scientific understanding of the knowledge, behavior, attitudes and practices (KABP) of the target audience, design relevant messages, and choose the communication channel most suited to the habits of the target audience. However, the success of an even properly designed campaign is dependent upon efficient service delivery. FERTS despite some administrative hiccups like non-availability and frequent change of information and outreach personnel has been able to convey the essential messages so crucial to FERTS success.

Revolving Loan Fund (RLF)

The Environment Conservation Fund (ECF) provides an excellent platform for future programs in energy efficiency especially if a part of it could be dedicated for gender mainstreaming through income generating opportunities for more women. "Discussion with the female gasoline owner revealed that she owned several such stations and highlighted the possibility of more women coming to the business. The fact should be kept into the mind when developing criteria for eligibility of females for the revolving fund" (MTE 1999). There are constraints on women transport entrepreneurs such as a lack of awareness, lack of access to credit, limited access to technical assistance and difficulties for small individual companies (owned by either women or men) to compete for bank loans.

However ECF can provide some promising approaches if at the planning process the following recommendations are kept in view:

- ❖ Gender sensitive participatory planning;
- ❖ Developing better ways to measure the value of women's time and incorporating this into project economic analysis;
- ❖ Institutional capacity building;
- ❖ Social assessment methods;
- ❖ Gender sensitive monitoring and evaluation;
- ❖ Community awareness raising (making men aware of women's transport needs and their role in sustainable development).

Governments and donors to address to the need of Gender-sensitive interventions and components in the fuel-efficient road transport area:

- ❖ Micro-credit - Helping women to acquire fuel efficient road transport (individually or communally)
- ❖ Opening up opportunities for women entrepreneurs in the transport sector through access to credit
- ❖ Promoting women's participation as transport providers.
- ❖ "Level playing field" for women entrepreneurs.
- ❖ Availability of technical assistance to women entrepreneurs
- ❖ Developing a gender sensitive policy framework.
- ❖ Design and test pilot interventions:
 1. Pilot projects
 2. Documenting and sharing lessons learned
 3. Workshops
 4. Developing a web site (Dovetail the project to the Needs of women);

5. Developing Toolkits and training material specially designed for women.

Appendix G – Ratings for Outcomes and Outputs

Ratings and Outcomes

1. Outcome Rating – *With regards to the principles of environmentally sustainable development integrated into the Pakistan’s policies, plans, programmes, projects and practices, what has been the overall change as a result of the FERTS Project?*

The Evaluation Team is of the opinion that there have been positive changes. One of the significant changes has been the building of awareness of a large portion of the country’s vehicle owners on the importance of well-tuned vehicles and its positive impact on air quality, and the development of a market for instrumented tune-ups (as opposed to manual tune-ups). However, this awareness and market has not been built for owners of commercial and fleet trucks and buses who comprise roughly 60 to 70% of the number of motor vehicles from an estimated 4 million vehicles in Pakistan; these owners have much to gain from more fuel-efficient operations. If more special studies had been adopted by the Government of Pakistan, the current situation with regards to future fuel efficiency initiatives in the road transport sector would have been more encouraging, and may have resulted in significant changes.

2. Sustainability Rating – *Has progress towards the outcomes been sustainable?*

The Evaluation Team is of the opinion that it is too soon to determine. Reasons for this opinion include:

- ❖ A forecast for continued growth of instrumented tune-up centers due to the strong response and involvement of the private sector for tune-up equipment;
- ❖ The demand for tune-up centers for commercial vehicles has not yet been developed;
- ❖ There has only been minimal adoption of special studies by the Government of Pakistan to improve fuel efficiency in the road transport sector;
- ❖ The revolving loan fund has been setup but has not disbursed any loans. Hence, the performance and sustainability of the RLF cannot yet be gauged. However, with the market assessment of the RLF being very encouraging, the sustainability of the RLF will be dependent on how well it is managed, marketed and supported. While there are some risks with the RLF being managed by ENERCON through the Energy Conservation Fund (ECF), these risks are offset by the ECF Board of Directors consisting of an equal number of private sector and public sector members and one person from UNDP.

3. Relevance Rating – *Are the outcomes relevant to the country’s development situation and needs?*

The Evaluation Team is of the opinion that the outcomes are very relevant to the country’s needs. Since Pakistan imports a significant portion of their energy needs, this project provides some of the necessary outcomes to reduce their reliance on imported fuels and provides the stage for hedging against rising costs of imported fuels and balancing foreign payments. Pakistan will need more support in these areas in future to further reduce this dependence.

4. Output Ratings – In general, has this UNDP project achieved its target?

The Evaluation Team is of the opinion that the outputs have been partially achieved: Outputs are summarized as follows:

- Establishment of 50 Tune-up centers (against a target of 50) that included:
 - Training of 895 workshop owners (against a target of 360) in 40 workshops;
 - Training of 2075 mechanics (against a target of 600) in 86 workshops; and
 - A targeted awareness campaign.
- Completion of the setup of a revolving loan fund (RLF) that has received seed funds from GEF for US\$ 3.00 million. However the RLF has not disbursed any loans nor has it recovered any funds;
- 12 special studies on various topics out of 15 targeted for completion. However, only four of these studies thus far have been adopted for follow-up and policy formulation.

5. Cost Effectiveness Rating – Has progress towards the outcomes been cost-effective with specific reference to the UNDP contributions?

The Evaluation Team is of the opinion that the progress and UNDPs contribution were somewhat cost-effective. While funds were used to meet and exceed targets set for the development of the market for instrumented tune-ups, less resources were spent on special studies as well as accelerating the development of the RLF:

- Funds could have been used for a strategic transport planner (with international experience) to strategically determine topics for the special studies. The conclusion of these strategic planning sessions may have resulted in less number of studies but better focused topics that would have been more readily adopted by government policymakers; and
- Cost effectiveness of the RLF component would have improved with the recruitment of a micro-credit expert with international expertise. This person would have accelerated the development of the RLF to the extent where there would have been loan disbursement and recoveries at the conclusion of FERTS.