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**Terminal Evaluation Report of  
Pakistan Sustainable Transport Project (PAKSTRAN)**  
*UNDP Project ID: 3953, GEF Project ID: 3539*

**Prepared By**

**Nisar Ahmad Khan**  
*Independent Consultant*

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**ACRONYMS**

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BAU	Business as usual
BRT	Bus Rapid Transit
CD	Component Director
CESTAC	Centre for excellence in sustainable transport and climate change
CIU	Component Implementation Unit
CM	Component Manager
CP	Country Programme
CPAP	Country Programme Action Plan
CPEC	China Pakistan Economic Corridor
EAD	Economic Affairs Division
ENERCON	National Energy Conservation Centre, Ministry of Water & Power
FJWU	Fatima Jinnah Women University Rawalpindi
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoP	Government of Pakistan
GoPb	Punjab Provincial Government
IP	Implementing Partner
IUCN	International Union for the Conservation of Nature
LoA	Letter of Agreement
M&E	Monitoring and Evaluation
MoC	Ministry of Communications
MoW&P	Ministry of Water & Power
NED	Nadirshaw Edulji Dinshaw University of Engineering and Technology, Karachi
NIM	National Implementation Modality
NPD	National Project Director
NPM	National Project Manager
NTRC	National Transport Research Centre
PAKSTRAN	Pakistan Sustainable Transport project
PCOM	Project Cycle and Operations Manual
PB	Project Board
PMU	Project Management Unit
Pro-Doc	UNDP Project Document
R&D	Research and Development
RP	Responsible Party
STD	Sindh Provincial Transport Department
TE	Terminal Evaluation
ToR	Terms of Reference
ToR	Terms of Reference
UET	University of Engineering and Technology Lahore
UNDP	United Nations Development Programme
UU	Urban Unit, Planning & Development Department, Punjab

## **EXECUTIVE SUMMARY**

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### *Project Summary Table*

Project Title	"Pakistan Sustainable Transport PAKSTRAN Project"			
GEF Project ID:	3539	Project financing	<i>at endorsement</i> <i>(Million US\$)</i>	<i>at completion (Million</i> <i>US\$)</i>
UNDP Project ID:	PIMS 3953	GEF financing:	4.8	\$ 4.7
Country:	Pakistan	UNDP contribution:	\$ 3	\$ 0.7
Region:	Asia and the Pacific	Government:	\$ 64.360	0
Focal Area:	Climate Change Mitigation	World Bank	3	0
		JICA	2	0
FA Objectives, (OP/SP):	Sustainable Transport System	Total co-financing:	69.360	0
Executing Agency:	Ministry of Water & Power, Government of Pakistan	Total Project Cost:	\$78.020	\$ 5.42
Other Partners involved:	<ul style="list-style-type: none"> <li>• Government of Punjab</li> <li>• Government of Sindh</li> <li>• Ministry of Communications</li> <li>• IUCN</li> </ul>	ProDoc Signature (date project began):	June 2011	
		(Operational) Closing Date:	Proposed: 30 September 2016	Actual: 31 December 2016

### Project Description

Pakistan Sustainable Transport (PAKSTRAN) project was an initiative of UNDP, the GEF and the Government of Pakistan that aimed to provide technical assistance to reduce the growth of energy consumption and related greenhouse gas (GHG) emissions from the transport sector in Pakistan, while simultaneously improving urban environmental conditions and improving Pakistan's trade competitiveness. The project's original implementation timeframe was from 2010 to 2015, however, actual implementation started in 2012 and its term was extended by one year till December 2016.

The global objective of PAKSTRAN is to reduce the GHG emissions from the transport sector in Pakistan. The developmental objectives of PAKSTRAN are: to improve urban environmental conditions (i.e. improved air quality, urban mobility, equity and city aesthetics); and to improve energy security for Pakistan. Moreover, the project has four components with specific outcomes, as outlined in the following:

**Outcome 1:** An operational sustainable urban transport system in Punjab province (Punjab P&D Department is the Responsible Party-RP to achieve this outcome);

**Outcome 2:** An operational sustainable urban transport system in Sindh province (Sindh Transport Department is the Responsible Party-RP to achieve this outcome);

**Outcome 3:** Improved fuel efficiency in truck freight transport (Ministry of Communications is the Responsible Party-RP for this outcome; &

**Outcome 4:** Increased public awareness and institutional capacity on sustainable transport concepts (IUCN-Pakistan is the Responsible Party-RP for this outcome)

**Project Evaluation Rating Table**

Evaluation Ratings			
1. Monitoring and Evaluation	rating	2. IA/EA Execution	rating
M&E design at entry	5 (S)	Quality of UNDP Implementation– Implementing Agency (IA)	5 (S)
M&E Plan Implementation	5 (S)	Quality of Execution - Executing Agencies(EAs)- Ministry of Water and Power (IP), P&DD Punjab (RP), Transport Deptt. Sindh (RP), Ministry of Communications (RP), IUCN (RP)	4 (MS)
Overall quality of M&E	5 (S)	Overall quality of Implementation / Execution	4 (MS)
3. Assessment of Outcomes	rating	4. Sustainability	rating
Relevance	2 (R)	Financial resources: (for continuity of BRT)	4 (L)
Effectiveness	5 (S)	Socio-political:	4 (L)
Efficiency	4 (MS)	Institutional framework and governance:	4 (L)
Overall Project Outcome Rating	4 (MS)	Environmental:	4 (L)
		Overall likelihood of sustainability:	4 (L)

**Please see details of rating scales as Annex-4**

### Summary of Conclusions and Recommendations

Based on the detailed analysis and findings of the evaluation exercise following are the summary conclusions and recommendations:

#### a) Overall Relevance and Continuity of Technical Support

PAKSTRAN project was highly relevant and instrumental in bringing forth and addressing issues of sustainable transport and provided technical support in implementation of BRT systems in large urban centers. However, the issues of the transport sector are very complex, time and resource consuming. On the other hand, it is also important to highlight that the trucking sector also remains one of the neglected sectors. The project has handsomely contributed to its promotion, but the work has just started and there is a long road ahead.

**Recommendation 1:** It is recommended that technical and capacity building support to urban transport (BRT) and trucking sector should continue. In this regard sound concept papers for future projects should be prepared and shared with relevant donors and institutions like Green Climate Fund (GCF) etc. to secure necessary funding. For the trucking sector, possibilities of

securing funds from China Pakistan Economic Corridor Programme and private sector also need to be explored.

### **b) Project Design and Results Framework**

PAKSTRAN Project was originally designed in 2010, with total budget of around USD 78 Million, including USD 70 Million from the Government and other partners. However, the stipulated contributions did not materialize and the project was implemented with budgetary resources of USD 7.8 Million, provided by GEF and UNDP. In addition, during project implementation circumstances of the urban transport sector also kept continuously changing. Overall, the original project results framework was well formulated and exhibited clear linkages among sub-outputs, outputs and outcomes. However, the changes in budgetary resources and circumstances had its own implications for project design and achievement of project outputs and outcomes. The project's Results Framework was accordingly revised and adjusted, but the outcomes and outputs remained the same.

**Recommendation 2:** It is recommended that future such projects need to be designed using a theory of change approach through rigorously involving all stakeholders in all stages of project formulation. Stakeholders' financial commitments and roles and obligations also need to be clearly defined and agreed upon well in advance. Project design should also duly incorporate the elements of flexibility to allow for desired changes during implementation.

### **c) Overall Project Efficiency, Management and Implementation**

Given the complexity of circumstances, the project has made rigorous efforts and considerable progress towards achieving its outputs and outcomes. As a technical assistance project, project interventions were mainly geared towards providing desired support in the areas of technical research, capacity building, coordination and awareness raising etc. However, the project also faced a number of management and implementation issues which considerably delayed project start and implementation of activities.

Main issues included changes in the project's original Implementing Partner and Responsible Parties, frequent turnover of the National Project Director (NPD) and project staff, lack of clarity and understanding of execution and organizational arrangements, lack of coordination/understanding especially between IP and RP in Punjab, late releases of funds and cumbersome work planning, management and approval processes.

**Recommendation 3:** It is recommended that in future such projects, partners should be selected carefully keeping in view their relevance, expertise, interest and commitment and, their roles and obligations should be very clearly defined and agreed upon. Similarly, agreement/contracts (LOAs) with all partners should also be signed before project inception.

**Recommendation 4:** It is recommended that in the timeframes of future such projects, adequate time should be designated for formation of governing bodies/structures, establishment of offices, recruitment of staff, procurement of goods and services, formulation of necessary implementation processes and procedures. Needless to emphasize that project

schedules should also provide necessary allowance and flexibility for unforeseen delays and road blocks.

**Recommendation 5:** It is also recommended that in such projects, with matrix organizational structures, where multiple and independent partners are involved, coordination among stakeholders should be further strengthened. Regular six-monthly and annual review and coordination meetings/workshops can greatly help in improving coordination among stakeholders. If needed, technical committees should be established at the component level to further facilitate coordination among stakeholders.

**Recommendation 6:** It is recommended that UNDP project management and operational processes like work planning, recruitment, procurement, monitoring and evaluation, progress reporting and fund releases etc. need to be further simplified and made more swift and efficient. Moreover, UNDP should duly train and build the capacities of stakeholders in UNDP-Project Cycle and Operations Manual (PCOM) procedures at the time of project start and provide periodic refreshers.

#### **d) Effectiveness of Project Results**

Through implementation of a wide range of interventions, project contributed to achieve its four outcomes related to sustainable urban transport in Punjab and Sindh, fuel efficiency in truck freight transport and awareness raising. Support was provided in development and/or operationalization of BRT systems in the cities of Lahore and Rawalpindi-Islamabad and Karachi. Research and policy works, institutional capacity building and awareness raising remained the hallmark interventions. In addition, sustainable transport research centers were established at Fatima Jinnah Women University (FJWU) Rawalpindi and University of Engineering and Technology (UET) Lahore, to cater for future needs.

**Recommendation 7:** It is recommended that project research works and all knowledge products should be widely shared and disseminated to relevant stakeholders for their reference and use. Presently these resources are available online on PAKSTRAN website, however after the termination of project either the site needs to be maintained or these valuable resources should be moved either to IUCN or UNDP website to make them available for times to come.

**Recommendation 8:** As mentioned, the project has contributed handsomely to transport related policy work. However, there is a lot more to be done, therefore it is recommended to rigorously peruse Sindh Transport Policy approval process and finalization of strategies for trucking policy 2007. Similarly, development of transport policies for other provinces also needs to be duly considered and prioritized.

#### **e) Sustainability of project interventions and benefits**

In view of the high level of relevance and demand and keen interest, will and significant investments of the Federal and respective Provincial Governments in BRT in Lahore, Islamabad, Rawalpindi and Karachi it can be easily concluded that the completed and forthcoming BRT systems will be adequately sustained and the benefits will continue to flow. Similarly, the policy

works also enjoy high level of ownership from the Government. However, in the wake of upcoming BRT systems in other cities, there is still a good demand and need for project interventions related to research work, capacity building and awareness raising in times to come. Though it is not very clear that in the absence of PAKSTRAN support how will these interventions be financed.

**Recommendation 9:** Project has established two sustainable transport research centers at FJW University Rawalpindi and UET Lahore, to cater for future research needs. These centers are still in very early stage of development. Therefore, it is strongly recommended that these centers should be supported technically and financially in the shorter run to make them productive and sustainable in the longer run. Furthermore, these centers need to be connected to other donors, institutions and industry for sustainability purposes.

#### **f) Overall Impact of Project**

PAKSTRAN project overall outcome was to reduce GHG emissions associated with urban transportation. Estimates from 2016 project study on greenhouse gas emissions status before and after metro bus project implementation along the Metro Bus Corridor RWP-ISB, suggests that the net reduction in CO<sub>2</sub> from RWP-ISB Metro Bus is around 4,486.76 tons annually. For 20 year BAU scenario it comes to around 89.7 ktonnes. If the same estimates are applied to Lahore Metro, then the assumed cumulative total reduction in CO<sub>2</sub> will be around 179.4 ktonnes as compared to BAU scenario over a 20-year period. It is important to highlight that the original project target of CO<sub>2</sub> reduction, from the two project envisioned BRT demonstrations, was 608 ktonnes for 20 year BAU. Results of the mentioned study shows that project targets were calculated too ambitiously.

**Recommendation 10:** It is recommended that in future such projects, targets related to outcome and impact indicators need to be realistically determined and should be based on sound calculations and realistic estimation, keeping in view its achievability status and ease of measurability.

## **1. INTRODUCTION**

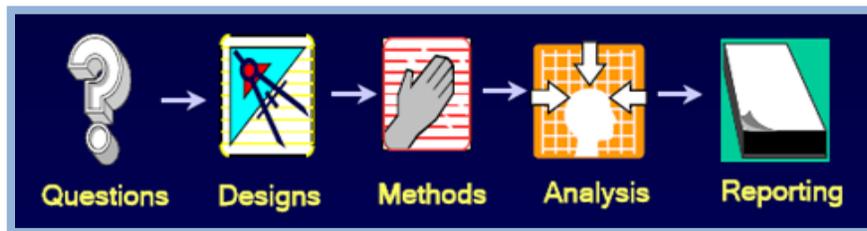
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## 1.1 Purpose of Terminal Evaluation

As outlined in the ToR, the main objectives of the terminal evaluation are to assess the achievements of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement to UNDP programming.

## 1.2 Scope & Methodology

In view of the objectives, scope and duration of the Terminal Evaluation, a semi structured mixed method approach has been adopted using mainly qualitative data collection and analysis methods and tools. The evaluation process has been conducted in line with the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for Terminal Evaluation of GEF Financed Projects. Broadly the overall evaluation process consists of five standard steps i.e. 1) Evaluation Questions, 2) Evaluation Design, 3) Data Collection Methods, 4) Data Analysis and 5) Presentation and Reporting. Following is the summary of proposed evaluation methodology:



### a) Main Evaluation Criteria and Questions

In line with the ToR and Guidelines for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, the TE adhered to the standard assessment criteria of Relevance, Effectiveness, Efficiency, Impact and Sustainability to assess the overall progress and performance of the project. Following is the summary of main questions related to assessment criteria:

- **Relevance:** How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?
- **Effectiveness:** To what extent have the expected outcomes and objectives of the project been achieved?
- **Efficiency:** Was the project implemented efficiently, in line with National and international norms and standards?
- **Sustainability:** To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?
- **Impact:** Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?

In addition to the above evaluation criteria, efforts have also been made to assess project design, results frameworks, implementation arrangements, project financing/co-financing and overall mainstreaming etc.

## **b) Evaluation Criteria & Ratings**

In line with UNDP and GEF terminal evaluation guidelines, various project performance dimensions and criteria were rated in accordance with the obligatory rating scales. These dimensions include project design, implementation and execution, M&E mechanisms and relevance, effectiveness, efficiency and sustainability of project outcomes and interventions. The completed table is included in the executive summary. The obligatory rating scales are outlined in **Annex-2**.

## **c) Data collection methods/tools**

- ***Desk Review of official records and documents***

A good deal of relevance, efficiency, effectiveness, impact and sustainability related data has been obtained from review of project documents, official records and secondary sources. These include but are not limited to the Project Document, Project Progress Reports including Annual Project Review/PIRs, Annual Work Plans, Financial Reports, Project Budget Revisions, Midterm Review Report, Technical Reports/Publications, Project Board Meeting Minutes, National Strategic and Legal Documents, and secondary sources etc.

- ***Key Informants interviews and focus group discussions***

Key informants interviews remained the primary source of information. Relevant respondents among project partners were identified in consultation with UNDP and project staff and meetings were held with concerned partners and project staff in Islamabad, Lahore and Karachi. Detailed discussions were held keeping in view various outlined evaluation questions. Please see list of people met as Annex 1.

## **d) Data Analysis, Presentation and Reporting**

In view of the nature of evaluation questions and use of qualitative assessment approach, collected data has been processed using validations, triangulations, interpretations and abstractions techniques and on the other hand, where applicable, quantitative data was analyzed using simple statistical methods to determine progress and trends.

The detailed findings of the evaluation exercise have been outlined in this Evaluation Report using prescribed format as outlined in the ToR. In addition to major findings, the report also provides overall conclusions, lessons learnt and specific recommendations. A presentation was held soon after furnishing of the draft report. Accordingly, the Report was finalized after duly addressing and accommodating the comments received on the Draft Report and during the presentation.

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## **2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT**

### **2.1 Project start and duration**

According to project document, the proposed implementation timeframe of Pakistan Sustainable Transport (PAKSTRAN) project was for five years i.e. from 1<sup>st</sup> October 2010 to 31 December 2015. However, the project document was formally signed by the Government around March 2011. Project mobilization and identification and arrangements with partners took further time and project inception workshop was organized in March 2012. Down the road, establishment of PMUs and CIUs, organization of project board 1<sup>st</sup> meeting, recruitment of project staff and implementation arrangements with partners also consumed considerable time. Finally, from 2013 onwards project interventions were implemented with full steam till project closure on 31 December 2016.

## **2.2 Problems that the project sought to address**

The project mainly intended to address the problems of increasing greenhouse gas emissions arising from growing urban transport congestion especially in big cities. It was highlighted that Pakistan is faced with rising urbanization and increase in private ownership of motor vehicles, which have a direct bearing on sustainable development in terms of deteriorating livability of urban areas and constrained economic growth by urban transport inefficiencies. Furthermore, the urban transport congestion has been negatively impacting the poor and low income classes who largely rely on public transport. It was also noted that at the time of project design, there was no organized public Bus Transit systems available in any of the big cities.

On the other hand, the project also intended to address the issues of fuel inefficiency in commercial vehicles especially old and outdated trucks, which have been putting heavy burden on foreign exchange reserves due to increased and inefficient consumption of imported fuel and are also source of excessive GHG emissions.

Barrier analysis in the project document also highlighted a number of contributing issues including lack of sustained institutional coordination for public transport development, absence of a comprehensive urban transport policy, lack of capacities and planning for urban transit, weak traffic management, lack of modern transport vehicles and low awareness of sustainable urban transport.

## **2.3 Immediate and development objectives of the project**

Pakistan Sustainable Transport (PAKSTRAN) project aimed to provide technical assistance to reduce the growth of energy consumption and related greenhouse gas (GHG) emissions from transport sector in Pakistan, while simultaneously improving urban environmental conditions and improving Pakistan's trade competitiveness.

The global objective of PAKSTRAN is to reduce the GHG emissions from transport sector in Pakistan. The developmental objectives of PAKSTRAN are: to improve urban environmental conditions i.e. improved air quality, urban mobility, and equity and city aesthetics; and to improve energy security for Pakistan. Moreover, the project has four components with specific outputs/results, as outlined in the following:

Component 1: An operational sustainable urban transport system in Punjab province

Component 2: An operational sustainable urban transport system in Sindh province

Component 3: Improved fuel efficiency in truck freight transport

Component 4: Increased public awareness and institutional capacity on sustainable transport concepts

## 2.4 Main stakeholders

The main stakeholders for the PAKSTRAN project include:

- United Nations Development Programme (UNDP) Pakistan and Global Environment Facility (GEF) – **Financiers and Overseers**. UNDP also provided needed technical and project management support.
- The Ministry of Water and Power, Government of Pakistan through ENERCON (the National Energy Conservation Centre) – **Implementing Partner at the Federal Level**
- The Planning and Development Department (P&DD), Government of Punjab Province, through The Urban Unit (UU) – **Responsible Party for Punjab (Component -1)**
- The Transport Department (STD), Government of Sindh Province – **Responsible Party for Sindh (Component -2)**
- The Ministry of Communication, Government of Pakistan through the National Transport
- Research Centre (NTRC) – **Responsible Party for Sindh (Component -3)**
- International Union for Conservation of Nature (IUCN) – **Responsible Party for (Component -4)**

In addition to the above main partners, a number of relevant stakeholders were engaged during implementation of project interventions which includes but not limited to Capital Development Authority, Punjab Transport Department, Traffic Police, Karachi Mass Transit Cell, and Transport Associations etc. It is important to highlight that project has established very good collaboration and remained closely engaged with a number of reputable academic institutions including: NUST University Islamabad, UET Lahore, Fatima Jinnah Women University, Rawalpindi, NED University Karachi, Sindh University, Jamshoro, Bahria University, Islamabad, Quaid-e-Azam University, Islamabad, CUST University, Islamabad, Islamic University, Islamabad and Arid University, Rawalpindi.

## 3. FINDINGS OF THE EVALUATION EXERCISE

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### 3.1 Project Design/Formulation

#### 3.1.1 Analysis of LFA/Results Framework

A detailed project Logical Framework Analysis (LFA)/Results Framework was formulated at the time of project design consisting of overall UNDP Country Programme outcomes, project specific outcomes and component outputs and sub-outputs related to four components. The RF also provides outcomes and output level Indicators, Baselines, Targets, Data Sources and Risks and Assumptions. Analysis suggests that the original results framework was well formulated and exhibited clear linkages among sub-outputs, outputs and outcomes.

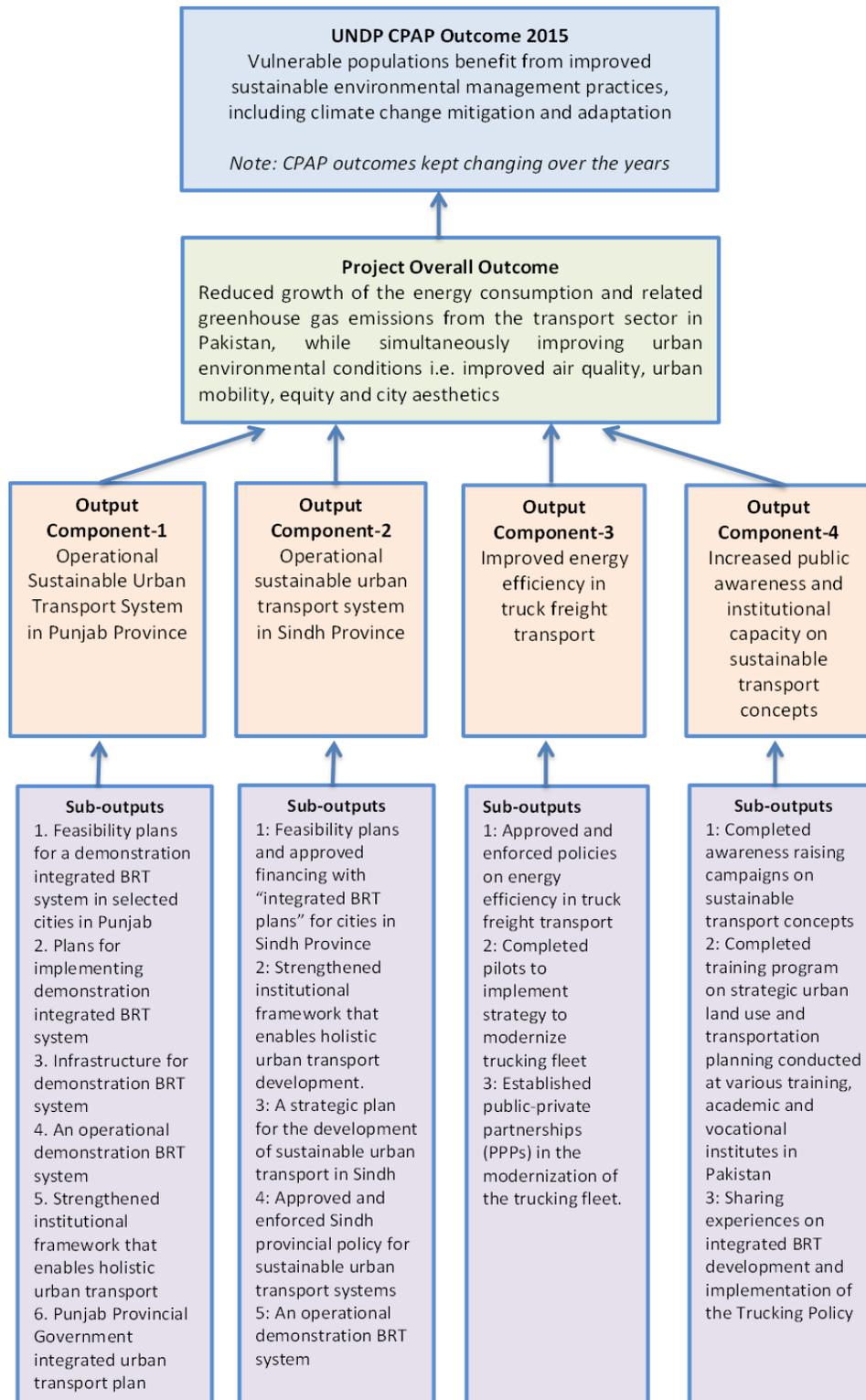
It is important to note that the Results Framework was formulated keeping in view the original project budgetary resources of around USD 78 Million, which included a large share of USD 64 Million from Government of Pakistan and another 6 Million contribution from other international agencies like World Bank and JICA etc. However, down the road the stipulated contributions from Government and other donors did not materialize and thus the project specific budgetary resources were constrained only to USD 7.8 Million, which included 4.8 and 3.0 Million as GEF and UNDP share respectively.

It is important to question that what could be the implications of these substantial changes in availability of project resources on the project design and especially achievability status of project outcomes and outputs targets. Analysis of Results Framework suggest that the project's main outcomes of reduction in GHG emissions from urban transport and trucking sector were largely dependent on the development and operationalization of two BRT demonstrations, one each in Lahore and Karachi, and pilots for modernization of trucks. Discussion and review of records suggest that the proposed BRT demonstrations and pilots for modernization of trucks could not be implemented as such as envisaged by the project design.

However, the Government of Punjab was very keen to implement a large scale BRT project i.e. the Lahore Metro Bus. The Metro Bus project was successfully completed and made operational in early 2013. In view of the success of the Lahore Metro, the interest of Government in BRT further enhanced and another state-of-the-art Metro Bus Service was successfully completed and operationalized in mid-2015 in the cities of Rawalpindi and Islamabad. Due to these two large scale BRT projects of Government of Pakistan, the need for BRT demonstration proposed under PAKSTRAN project in Lahore was diminished and the required project outcomes of reduction in GHG emissions would be fulfilled by these two BRT projects in Lahore and Islamabad-Rawalpindi. In Karachi, work on proposed Orange and Green Lines of Metro Bus is in progress and will help in reduction in GHG emissions once completed.

It can be concluded that circumstances during project implementation kept continuously changing, which posed greater challenges for the original design and results framework. The project took the necessary measures to revise and adjust its Results Framework in March 2014 with the approval of Project board. Efforts were made to adjust project indicators and targets, however the broader outcomes and outputs remained the same, posing challenges of attribution and contribution for the purpose of measurability.

### **Project Results Framework**



### 3.1.2 Assumptions and Risks

The revised Results Framework of the project outlines a number of assumptions for the successful implementation of the project and achievability of results. Major assumptions included:

*1. Reliable data obtained from carrying out physical surveys related to ridership switching from car to public transport;*

In this regard, the project completed a study on estimation of greenhouse gas emissions status before and after metro bus project implementation along the Metro Bus Corridor Rawalpindi/Islamabad using survey related to ridership switching from car to public transport.

*2. Firm and continued support from Government and all related stakeholders in implementation and monitoring and evaluation;*

Overall support from Ministry of Water and Power, Ministry of Communication, Sindh Transport Department, various academic institutions, IUCN and other relevant stakeholders remained forthcoming and productive. However, at times, collaborations with Urban Unit of Government of Punjab remained constrained due to differences in understandings of project interventions and implementation modalities.

*3. BRT design and construction standards are adopted and implemented by the Government of Punjab in true letter and spirit;*

This assumption was made in the context of project proposed BRT demonstration. However, since Government of Punjab has already adhered to high standards in the design and construction of Lahore and Rawalpindi Metro Bus service, therefore this assumption is sufficiently taken care of.

*4. Private-public partnerships (PPPs) support from Government and all related stakeholders;*

This assumption was made in the context of modernization of trucks. Discussions with stakeholders suggest that so far very limited progress has been made to secure any PPP for trucking sectors.

### **3.1.3 Lessons from other relevant projects incorporated into project design**

PAKSTRAN project was unique in its kind and the project design draws from a number of BRT and trucking related studies and initiatives carried out in the past. The project document had highlighted that given the history of failed initiatives to develop and implement sustainable transport in Pakistan, the project design will focus on demonstrating best practices that are applicable to the Pakistani urban concept and take into account the lessons learned and experiences from previous initiatives in developing and implementing BRT systems and to modernize trucking sector. The main lessons drawn from previous experiences and incorporated into project design were related to adoption of a holistic planning approach for BRT, streamlining of institutional mechanisms and policy frameworks, holistic approaches for implementation of trucking policy, raise awareness and knowledge levels and sustainability of interventions and benefits.

### **3.1.4 Replication approach**

Since successful completion and operationalization of Metro Bus Service in Lahore, Rawalpindi and Islamabad, National and Provincial Governments are very keen to extend BRT systems to other major cities like Multan, Karachi and Peshawar. Work on Green and Orange Line Metro

Bus in Karachi is in progress and is expected to be completed by 2018. Similarly, planning for BRT in Peshawar is also in progress. Overall, it can be concluded that demand and governmental will for establishing BRT systems in urban centers is gaining momentum and it is expected that the BRT will be gradually replicated in times to come.

Regarding trucking component, work on truck modernization pilots could not be expedited. However, in view of the increased importance of the trucking sector due to the China Pakistan Economic Corridor, it is expected that good practices from the project will be replicated in times to come.

### **3.1.5 UNDP Comparative Advantage**

Overall, UNDP has played an important role in facilitation, coordination and implementation of PAKSTRAN Project. Discussions with stakeholders suggest that they highly valued their collaboration with UNDP. Overall UNDP enjoys very sound reputation with stakeholders and especially with governmental institutions which has greatly helped in facilitation of access to partners and implementation of the project interventions. UNDP close interaction with all the federal and provincial government entities was found very instrumental to streamline actions, boost delivery and ensure ownership of the government.

UNDP remained one of the co-financers and provided a share of project financial resources. The project was implemented using UNDP's National Implementation (NIM) modality and accordingly all needed administrative, operational, technical and capacity building support was provided by UNDP during implementation. UNDP also diligently exercised its role in the quality assurance and monitoring and evaluation of the project interventions and results, including regular progress reporting and mid-term evaluation etc. It is important to highlight that UNDP played an important role in facilitation to address issues related to project management and implementation.

### **3.1.6 Linkages between project and other interventions within the sector**

Federal and Provincial Governments have been very keen and interested in implementing large scale BRT systems in the major cities of Pakistan and have recently completed and operationalized Metro Bus Systems in Lahore and Rawalpindi-Islamabad. Furthermore work on Orange Line and Green Line Metro Bus in Karachi is also underway with full steam. Plans are also being prepared for extending Metro Bus Systems to other cities like Multan, Faisalabad and Peshawar etc.

In the wake of these mega Metro Bus Projects, the project made strenuous efforts to adjust its design and interventions and has established linkages with relevant institutions and provided technical support during and after completion of Metro Bus Systems in Lahore and Islamabad and forthcoming Metro Bus Lines in Karachi. Accordingly, in trucking sector Project also established linkages with relevant academic and governmental institutions to promote fuel efficiency and modernization of trucks in the wake of enhanced interests of Government of Pakistan due to China Pakistan Economic Corridor (CPEC).

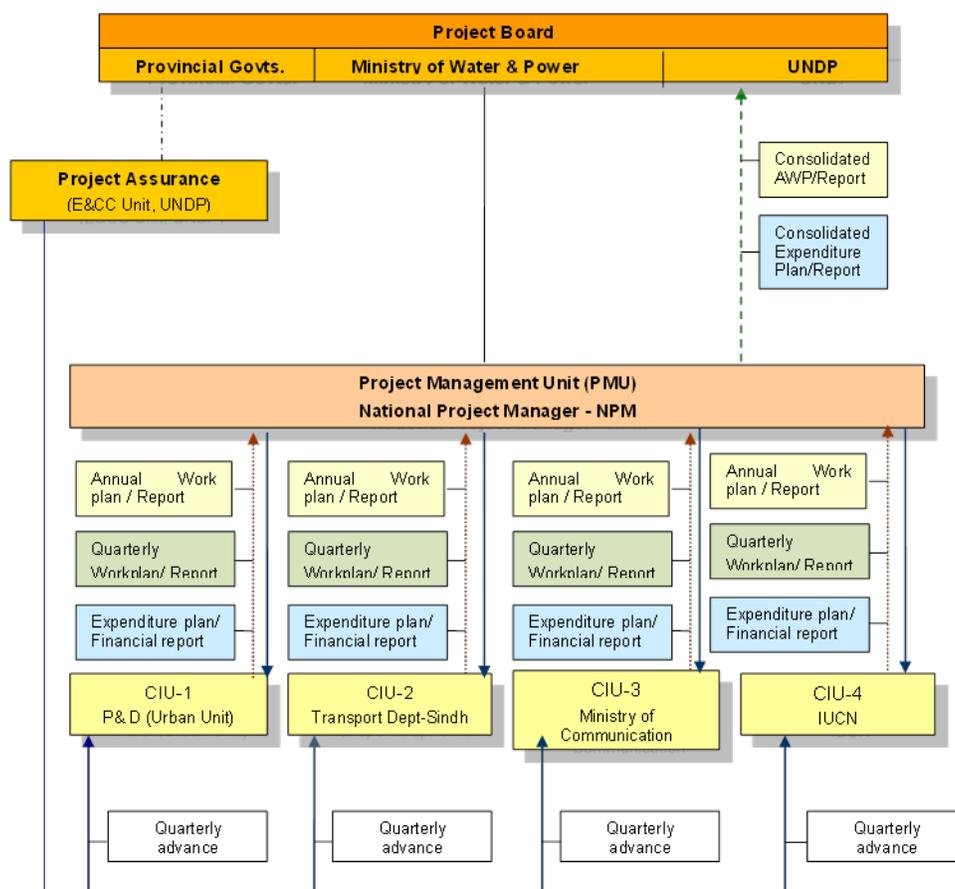
### 3.1.7 Management arrangements

PAKSTRAN project was implemented using National Implementation (NIM) Modality. Following is the summary description of main implementing and responsible partners:

- **UNDP Pakistan and GEF**, provided overall funding, technical assistance, oversight and support to project management and overall coordination.
- **The Ministry of Water and Power**, Government of Pakistan through ENERCON, remained the Implementing Partner at the national level and directed, facilitated and coordinated overall project implementation through the Project Management Unit, headed by National Project Director
- **Planning and Development Department (P&DD)**, Government of Punjab Province, through The Urban Unit (UU), remained responsible party for Component-1 and directed, facilitated and coordinated overall project implementation in Punjab through Component Implementation Unit (CIU), headed by Component Director
- **Sindh Transport Department (STD)**, Government of Sindh Province, remained Responsible Party for Component-2 and directed, facilitated and coordinated overall project implementation in Sindh through Component Implementation Unit (CIU), headed by Component Director.
- **The Ministry of Communication**, Government of Pakistan, remained Responsible Party for Component -3 and directed, facilitated and coordinated overall project implementation for trucking sector through Component Implementation Unit (CIU), headed by Component Director.
- **International Union for Conservation of Nature (IUCN)**, remained Responsible Party for Component -4 and directed, facilitated and coordinated overall project implementation regarding awareness and capacity building through Component Implementation Unit (CIU), headed by Component Director.

PAKSTRAN project was guided, advised and overseen by a Project Board (PB), chaired by Secretary, Ministry of Water and Power and members including senior officials of UNDP, Planning Commission of Pakistan, Economic Affairs Division, Environmental Protection Agency, Ministry of Communication, HDIP, PMU and respective CIUs etc. Review of PB meeting minutes suggests that 1<sup>st</sup> PB meeting was organized on 4th October 2012, after a considerable delay since initiation of project, however afterwards PB meetings were held regularly mostly on an annual basis and discussed in detail the progress of project interventions and similarly reviewed and approved annual work plans. PB also provided strategic advice and oversight and was instrumental in revising the project results framework. (Please see PAKSTRAN organizational structure below)

### Organizational Structure of PAKSTRAN Project



The project was implemented through a multi-tiered and matrix organizational setup involving a number of partners and project staff and at the national and provincial level. Overall, the project was led by National Project Director, the Additional Secretary Ministry of Water and Power. A Project Management Unit was established in Islamabad, led by National Project Manager and consisting of Monitoring and Evaluation Officer and administrative staff. The main functions of PMU included overall coordination, monitoring and evaluation, progress reporting, facilitation of annual work plans and day-to-day management of the project. Discussions suggest that operationalization of PMU took considerable time, however afterwards it functioned very efficiently and negotiated its roles in the best possible manner.

To implement project interventions at the component level, Component Implementation Units (CIUs) were established in Lahore (at Urban Unit), Karachi (at STD), Islamabad (at NTRC) and Islamabad (at IUCN). Overall, the respective components were led by Component Directors i.e. senior officials of respective Responsible Parties. CIUs were led by project appointed Component Managers and consisted of limited administrative staff. Main functions of CIUs included work planning, implementation and monitoring of component interventions and progress reporting.

Discussions with partners suggest that initially the organizational and execution setup was not very clearly defined. In the project start, CIUs received funds directly from UNDP against approved work plans, making them relatively independent of the PMU. In addition, the

relationship among the involved Ministries at the national level and Government Departments at the provincial level was also not very clear especially the reporting lines and role of PMU. Matters were further compounded by lack of proper agreements or signed contracts among implementing responsible parties.

To streamline project implementation and coordination, PMU made considerable efforts and formulated and secured the signatures on official Letters of Agreement (LoA) between Implementing partner and responsible parties. For example, LoA for Component-1 between MoWP and P&DD Punjab was signed in May 2014 and LoA for Component-3 was between MoWP and MoC was signed as late as March 2015. These organizational and contractual arrangements consumed considerable time and resulted in delays in implementation of interventions. Afterwards the streamlining of roles, responsibilities and processes were greatly helpful in improving implementation of project interventions and coordination among stakeholders and PMUs and CIUs regarding preparation of work plans, implementation of project activities and monitoring and reporting of progress.

### **3.2 Project Implementation**

#### **3.2.1 Adaptive management**

Since project design and inception, sectoral circumstances and governmental priorities related to urban transport considerably changed from time to time. In recent years, Government of Punjab's interests were greatly enhanced in implementing large scale BRT project in Lahore. Their efforts culminated in the completion and operationalization of state-of-the-art Lahore Metro Bus Service in February 2013. In view of the success of Lahore Metro, the interests of Government of Pakistan in BRT further enhanced and another state-of-the-art Metro Bus Service was successfully completed and operationalized in mid-2015 in the cities of Rawalpindi and Islamabad. In Karachi too, work on Orange Line and Green Line Metro Bus is underway with full steam and is sponsored by Sindh Government and Federal Government respectively.

Review of project documents and results framework suggests that project design did not anticipate the coming of these large scale Metro Bus projects. Therefore, it posed substantial challenges for project outputs and sub-outputs related to establishing two BRT demonstrations in Lahore and Karachi, as in the wake of these Metro Bus Projects, the need for a project proposed BRT demonstration was already diminished. Therefore, project made strenuous efforts to adjust its interventions to the changing situations and accordingly revised its indicators and targets in the results framework with the approval of PB in March 2014. Subsequently, it tried to adjust its project design and interventions to support and complement the ongoing Metro Bus Systems in Lahore and Islamabad and forthcoming Metro Bus Lines in Karachi. Additionally, project also adopted its interventions to the needs of stakeholders in terms of capacity building and awareness raising.

In addition, the project also made necessary adaptations to its initial design regarding main implementing partner and responsible party for Component-3. Originally, the project design identified Ministry of Environment, Government of Pakistan through ENERCON as the main Implementing Partner. Down the road, the Ministry of Environment was devolved to the

provinces and subsequently ENERCON was attached to Ministry of Water and Power and hence the Ministry of Water and Power became the new Implementing Partner. On the other hand, according to initial design, the Ministry of Industries was identified as Responsible Party for the Component-3 related to trucking. However, later it was replaced by the Ministry of Communication as Responsible Party for the mentioned component.

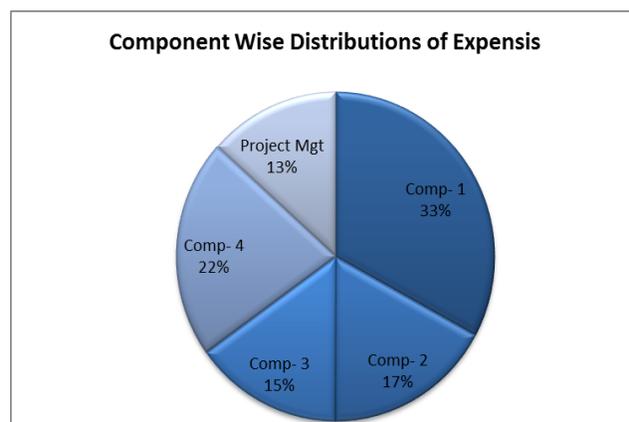
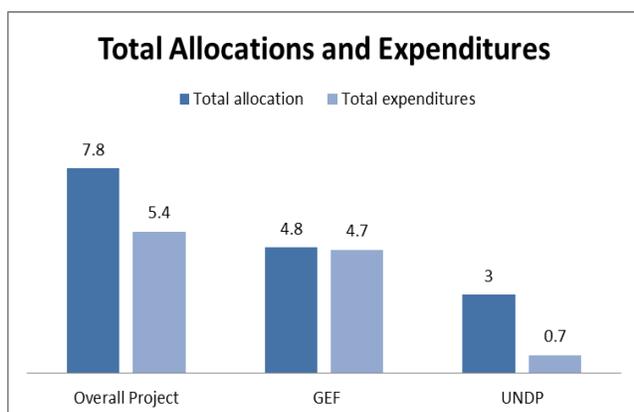
### 3.2.2 Project Finance and Expenditures

According to the original Project document, the total proposed budgetary resources of the project were around USD 78.0 Million, including a large share of USD 64.0 Million from Government of Pakistan and around 6 Million from other international agencies and 7.8 Million from GEF and UNDP. However, down the road the stipulated contributions from Government and other donors did not materialize and thus the project specific budgetary resources were constrained only to GEF and UNDP finances i.e. USD 7.8 Million.

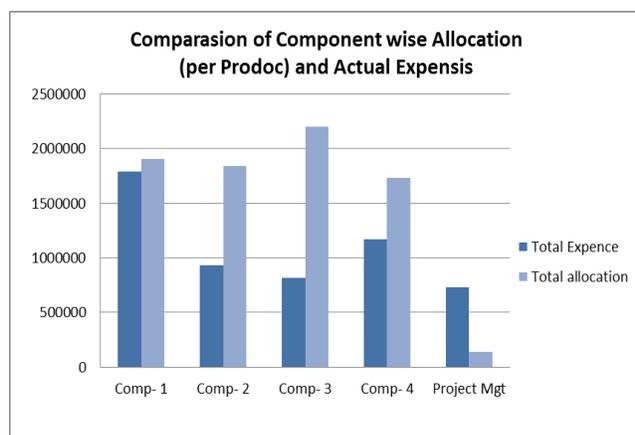
Discussion with stakeholders suggests that it was not very clear how these large sums of contributions, especially from government, were derived at and included in the overall project resource framework and why these resources did not materialize for project use. In a nutshell, the project had to rely only on the resources committed and provided by UNDP and GEF.

#### Total Resources as outlined in the Prodoc

Total resources:	\$ 78,020,000
• GEF	\$ 4,800,000
• UNDP	\$ 3,000,000
• World Bank	\$ 2,000,000
• JICA	\$ 2,300,000
• Government	\$ 64,360,000
• Provinces and Cities	\$ 1,560,000
In-kind contributions	_____



According to summary financial statements, as of December 2016, project has utilized around USD 5.4 Million i.e. 70% of its total committed resources of USD 7.8 Million. Out of these, around 4.7 Million were spent from GEF funding and the rest 0.7 Million were spent from UNDP resources. It is important to highlight that GEF financing was up to the mark almost all of its committed resources were duly provided and utilized. UNDP funding remained lower as compared to total commitment and was



allocated on an annual basis in line with the pace of the project. Overall, the lower spending of the project can be attributed to the very late start of the project and slower pace in initial years.

Component wise expenditures details show that activities under Component -1 consumed around 33% of the total resources, followed by Component-4 at 22%, Component-2 at 17%, Component-3 at 15% and 13% was spent on operations and management. Comparison of the component wise allocation (as per Prodoc) and actual expenses suggest that component-1 nearly consumed most of the allocated resources, however spending on all other components remained lower than planned.

Year wise analysis suggests that project expenditures grew steadily since 2012 and were at the highest in 2015. It is also important to note that Component-3 was started as late as 2015. Component wise allocations were made based on annual work plans and budgets, which were duly approved by the Project board. Funds were released by UNDP to PMU and then to CIUs on quarterly basis after submission and approval of quarterly work plan by Implementing Partner. Please see the following Table for details of yearly and component wise expenditures.

Overall, it is concluded from analysis that project financial resources and inputs were managed and spent in an efficient, transparent and accountable manner, using UNDP standard (PCOM) procedures for financial management and procurement and recruitment processes, keeping in view the best value for money.

Component wise Project Expenditures during 2012-2016								
			2012	2013	2014	2015	2016	Total
Operational sustainable urban transport system in Punjab province	Comp- 1		23203	79045	488226	544879	651260	1,786,613
Operational sustainable urban transport system in Sindh province	Comp- 2		0	0	293395	397577	238235	929,206
Improved energy efficiency in truck freight transport	Comp- 3		0	0	0	354159	462193	816,352

Increased public awareness and institutional capacity on sustainable transport concepts	Comp-4	10643	117609	297849	600584	141575	1,168,260
Project Operations & Management	Project Mgt	46157	194336	155066	237176	93090	725,825
<b>Total</b>		<b>80,003</b>	<b>390,989</b>	<b>1,234,535</b>	<b>2,134,375</b>	<b>1,586,353</b>	<b>5,426,256</b>

### 3.2.3 Monitoring and evaluation

The Project document has put greater emphasis on and has outlined a number of monitoring and evaluation measures and plans to effectively monitor and report the progress of project interventions and results. At the highest level, the project progress was rigorously monitored by the Project Board. Project component wise progress was regularly presented and discussed in PB meetings and corrective measures were suggested to streamline project interventions. In addition, the project also monitored its progress through internal monthly and quarterly review meetings from time to time.

PMU remained responsible for overall monitoring and evaluation of project interventions and results and regular compilation of progress reports. The project has employed a dedicated Monitoring and Evaluation Officer, who was responsible for planning and implementation of all M&E related activities including collection and processing of timely data and compilation of progress reports etc. Project Results Framework was revised and its outcome and output level indicators and targets were adjusted and monitoring plan was prepared and implemented to measure project progress and results.

Project progress has been regularly reported on quarterly and annual basis through furnishing a series of Quarterly and Annual Progress Reports. Prepared on standard formats these progress reports describe in detail the progress of implementation of activities. They also highlight major issues, risks and lessons learnt during the project implementation. UNDP CO was regularly engaged in oversight and quality assurance of project and has closely monitored the project interventions on quarterly and annual basis through regular progress review and reporting. In 2016, UNDP introduced an online progress reporting system (STAR) for monitoring of project progress. Accordingly, feedback from Progress Reports/PIRs and tracking tools was used for course correction from time to time. UNDP CO was also involved and facilitated the commissioning of independent Mid-term review and Terminal Evaluation of the Project.

An independent mid-term review of the project was carried out in mid-2015, which rigorously reviewed project design and progress and provided operational recommendations for improvement of project interventions. For example, among others, it called again for revision and adjustment of project results framework especially of outcome-1 and outcome-2. The Project document also envisaged an independent Terminal Evaluation of the project towards the end of the project. The objectives of this TE is to assess the achievements of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement to UNDP programming.

### 3.2.4 Overall project implementation/execution, coordination, and operational issues

Given the complexity of circumstances, the project has made rigorous efforts and considerable progress towards achieving its outputs and outcomes. However, like many other development projects, it also faced a number of execution and coordination issues which delayed project start and full scale implementation. According to project document, the proposed implementation timeframe of project was for five years i.e. from 1st October 2010 to 31 December 2015. However, the project started its actual implementation from late 2012 with the operationalization of Project Board, PMU and CIUs. Implementation started with slow pace and steadily gathered steam up from 2013 to 2016. A number of factors were responsible for the delays in implementation including;

***a) Implementing partner and Responsible parties' selection issues***

Originally, the project design identified Ministry of Environment, Government of Pakistan through ENERCON, as the main Implementing Partner and subsequently the Project Document was also signed by the Ministry of Environment and UNDP. However, soon after, the functions of Ministry of Environment at the Federal level were devolved to the provinces under the constitutional amendment. With this, ENERCON, previously a subsidiary of MoE, was attached to Ministry of Water and Power and hence the Ministry of Water and Power became the new Implementing Partner. These changes took considerable time to take effect, thus delaying project implementation. Furthermore, frequent turnover of the National Project Directors, designated officials of IP, also posed management challenges and delays in implementation.

Regarding Component-3, the initial design identified the Ministry of Industries as Responsible Party for the Component-3 related to trucking. However, they expressed their inability to take up the component due to relevance issues. After necessary search and deliberations, Ministry of Communication was selected as relevant Responsible Party for the Component-3, and LoA was signed in March 2015. The late start of interventions under this component also has its own implications for achievement of desired project results.

***b) Lack of clarity and understanding of execution arrangements***

Discussions with partners suggest that initially the organizational and execution setup was not very clearly defined. Project was executed through NIM modality, which basically takes into consideration a single Implementing Partner at the national level. Since project also involved a number of Responsible Parties, especially provincial governments, therefore in the start the project hierarchy and line of responsibilities and reporting among IP and RPs were unclear. Initially RPs-CIUs received funds directly from UNDP against approved work plans, making them relatively independent of the IP-PMU.

Matters were further compounded by lack of proper agreements or signed contracts among implementing responsible parties. To streamline project implementation and coordination, PMU made considerable efforts and formulated and secured signatures on official Letters of Agreement (LoAs) between IP and RPs. These organizational and contractual arrangements consumed substantial time and resulted in delays in implementation of project interventions.

Discussions with partners also suggest that overall collaboration between IP and RPs remained optimal, except for Component-1, where at times, collaborations between IP-PMU and Urban Unit of Government of Punjab remained strained due to differences in understandings of project priorities, interventions and implementation modalities. Overall, these differences also considerably hampered the trust between IP and RP and resulted in delays of project interventions.

### c) Procedural and process delays

Organization of Project board and recruitment of PMU and CIUs staff also consumed considerable time till required project staff came on board and 1<sup>st</sup> PB meeting was held in October 2012. Furthermore, preparation and approval of annual work plans also remained very time consuming and cumbersome. For example, Mid-term review notes that the finalization of AWP for 2013 took a lot of effort and draft plans were revised 38 times before final approval. The late approval of AWPs in turn resulted in delays in transfer of funds from UNDP to PMU and CIUs, subsequently delaying project interventions.

The project undertook a number of studies and research works. Bidding processes and selection of contractors in general and especially in Punjab, consumed extra time due to issues like gaps in budgets foreseen for a study as compared with the bids received. In such cases, call for proposals were re-advertised and the selection process was re-done, resulting in delays in completion of proposed studies.

## 3.3 Project Results

### 3.3.1 Overall Results/Outcomes (Evaluation Rating: 4-Moderately Satisfactory)

The following table provides a summary of achievements against Indicators and Targets of Project RRF (Revised March 2014). Detailed analysis is provided under the following sections on Relevance, Efficiency, Effectiveness, Sustainability and Impact.

SUMMARY TARGETS AND ACHIEVEMENTS			
REVISED RESULTS AND RESOURCES FRAMEWORK (RRF) FOR PAKISTAN SUSTAINABLE TRANSPORT PROJECT			
Results (Outcomes and Outputs)	Sub-Output and Indicators	Targets	Summary Achievements
<b>Overall Project Objective/ Atlas Output Reduction of greenhouse gas (GHG) emission associated with</b>	<b>Overall Project Objectives</b> Reduction of greenhouse gas (GHG) emission associated with urban transportation <b>Indicator 1:</b> Cumulative, direct GHG emission reductions in the urban transport sector compared to BAU scenario over a 20-year period, ktonnes	<b>Target 1:</b> <b>608 ktonnes CO<sub>2</sub></b> (direct reduction from BRT demonstrations)	<ul style="list-style-type: none"> <li><b>179.4 ktonnes CO<sub>2</sub></b> estimated reduction from Lahore and Islamabad Metro Bus Systems (Source: Project Study) (For details please see section on 3.3.8 related to Impact)</li> </ul>

<b>urban transportation</b>	<b>Indicator2:</b> Cumulative, direct GHG emission reductions from a pilot scheme to modernize the trucking fleet compared to BAU scenario over a 10-year period, ktonnes	<b>Target 2:</b> 5 ktonnes CO <sub>2</sub> (direct reduction from truck modernization program)	<ul style="list-style-type: none"> <li>• Pilot on Truck modernization did not materialize (For details please see section on 3.3.6 on Effectiveness )</li> </ul>
<b>Output -1 Operational Sustainable Urban Transport System in Punjab Province</b>	<b>Sub- Output 1.1:</b> Feasibility plans for a demonstration integrated BRT system in selected cities in Punjab Province	<b>Target 1:</b> 2 feasibility plans augmented for BRT in Lahore and Rawalpindi	<ul style="list-style-type: none"> <li>• In the wake of Governmental interests in implementation of Lahore and Islamabad Metro. The project proposed/envisaged BRT demonstration related feasibility plans did not materialize and project support was diverted to the two Metro Systems.</li> </ul>
	<b>Indicator 1:</b> Number of completed feasibility plans prepared for BRT in Punjab	<b>Target 2:</b> 1 Public private financing secured based in one city in Punjab	<ul style="list-style-type: none"> <li>• The proposed securing of public-private for BRT did not materialize.</li> </ul>
	<b>Indicator 2:</b> No of public private financing secured based on the selected feasibility study (IPDF and ECF)		
	<b>Sub-Output 1.2:</b> Plans for implementing demonstration integrated BRT system	<b>Target 1:</b> No of feasibility studies from output 1.1 being upgraded to holistic BRT implementation plan for the BRT system.	<ul style="list-style-type: none"> <li>• As mentioned earlier the project proposed/envisaged BRT demonstration related feasibility plans did not materialize.</li> </ul>
	<b>Indicator 1:</b> Extent to which effective capacity building programmes for UU developed and implemented	<b>Target 2:</b> 2 approved implementation plans for integrated BRT system in 2 cities of Punjab	<ul style="list-style-type: none"> <li>• Read as above</li> </ul>
	<b>Indicator 2:</b> Number of approved integrated BRT implementation plans for selected cities in Punjab Province.		
	<b>Sub-Output 1.3</b> Infrastructure for demonstration BRT system	<b>Target 1:</b> No of capacity development programmes for city government/govt. agencies and local engineering firms in engineering, construction, operations and management of BRT system	<ul style="list-style-type: none"> <li>• Following is a short list of capacity development events organized by the project. (For detail list please see table of interventions under section 3.3.3 related to Efficiency);</li> <li>• Workshop on “The Provision of Sustainable Public Transport System”</li> <li>• Seminar on “GIS Applications in the Sustainable Urban Transport System, Lahore</li> <li>• CDM Training in Lahore</li> <li>• "Training of Police Wardens' on Bus rapid Transit during the construction phase" in Rawalpindi</li> <li>• Traffic Police training on Bus Rapid Transit (Batch-I) in Multan</li> <li>• City Traffic Police training on Bus Rapid Transit (Batch-II) in Multan</li> <li>• Training course on “Nationally Appropriate Mitigation Measures”</li> <li>• Consultative Sessions for Academic Institutions/Universities of Rawalpindi and Islamabad on Sustainable Urban Transport.</li> </ul>
	<b>Indicator 1:</b> Number of capacity development programmes developed and implemented for city district government/govt. agencies and local engineering firms		
	<b>Indicator 2:</b> Extent to which the capacity development programmes have been effective.		

	<p><b>Sub-Output 1.4:</b> An operational demonstration BRT system</p> <p><b>Indicator 1:</b> Number of institutions with enhanced capacity to operate, maintain, and manage a BRT system</p> <p><b>Indicator 2:</b> Cumulative GHG reductions from the BRT demos in 02 cities of Punjab- ktonnes CO2</p> <p><b>Indicator 3:</b> Cumulative energy savings generated by BRT pilot demonstration</p> <p><b>Indicator 4:</b> % increase in public transit ridership</p> <p><b>Indicator 5:</b> Methodology and M&amp;E plan designed for the measurement of the specific energy and emission parameters</p>	<p><b>Target 1:</b> One operational BRT system with no. of institutions having enhanced capacity to operate, maintain, and manage a BRT system</p> <p><b>Target 2:</b> 20,280 tonnes of CO2 reduced by the BRT demonstration</p> <p><b>Target 3:</b> 1000 toe of energy saved from BRT demonstration</p> <p><b>Target 4:</b> 8% increase in public transit ridership</p> <p><b>Target 5:</b> M&amp;E plan (including methodology) development for calculating energy &amp; emission savings</p>	<ul style="list-style-type: none"> <li>As mentioned earlier the project proposed/envisaged BRT demonstration related feasibility plans did not materialize.</li> <li>BRT demonstrations were not perused. However for cumulative CO2 reduction (from Lahore and Islamabad Metro Bus) please see in above Target 1 for overall Project objectives</li> <li>Project has conducted a Study on Assessment of the Vehicular Emissions' Status in the Pre and Post BRT Project Implementation Scenario at the Twin Cities, Rawalpindi and Islamabad</li> </ul>
	<p><b>Sub- Output 1.5:</b> Strengthened institutional framework that enables holistic urban transport development.</p> <p><b>Indicator 1:</b> Number of institutional framework developed to facilitate holistic urban transport planning in Punjab</p>	<p><b>Target 1:</b> New policy framework proposing &amp; stream-lining the reporting lines, responsibilities and accountability for each relevant agencies (Punjab Govt, and other institutions)</p>	<ul style="list-style-type: none"> <li>Work on desired new policy framework in Punjab did not materialize.</li> </ul>
	<p><b>Sub- Output 1.6:</b> Punjab Provincial Government integrated urban transport plan</p> <p><b>Indicator 1:</b> Number of strategic integrated urban transport plans</p> <p><b>Indicator 2:</b> Number of Provincial policy for integrated Sustainable Urban Transport</p>	<p><b>Target 1:</b> 1 strategic plan for holistically planned integrated urban transport</p> <p><b>Target 2:</b> Provincial policy for integrated Sustainable Urban Transport formulated, approved and implemented.</p>	<ul style="list-style-type: none"> <li>Work on any such strategic plan did not materialize.</li> <li>Work on provincial policy for sustainable transport in Punjab did npt materialize.</li> </ul>
<p><b>Output- 2</b> <b>Operational sustainable urban transport system in Sindh Province</b></p>	<p><b>Sub- Output 2.1:</b> Feasibility plans and approved financing with “integrated BRT plans” for cities in Sindh Province</p> <p><b>Indicator 1:</b> Number of completed feasibility plans prepared for BRT in Sindh</p> <p><b>Indicator 2:</b> Number of public</p>	<p><b>Target 1:</b> 1 bankable integrated BRT feasibility with implementation plan</p> <p><b>Target 2:</b> 02 financial institutions with commitment to</p>	<ul style="list-style-type: none"> <li>Work on any such bankable BRT feasibility did not materialize.</li> <li>Govt. of Sind and Govt. of Pakistan has committed to provide finances for the two Metro Systems in Karachi.</li> </ul>

private financing secured based on the selected feasibility study (ECF/IPDF)	finance BRT systems	<ul style="list-style-type: none"> <li>Project actively supported the development of Draft Sindh Urban Transport Policy which is currently in the approval process.</li> </ul>
<p><b>Sub- Output 2.2:</b> Strengthened institutional framework that enables holistic urban transport development.</p> <p><b>Indicator 1:</b> Number of institutional framework developed to facilitate holistic urban transport planning in Sindh</p>	<p><b>Target 1:</b> New policy framework proposing &amp; stream-lining the reporting lines, responsibilities and accountability for each relevant agencies (Sindh Govt, and other institutions)</p>	<ul style="list-style-type: none"> <li>Project actively supported the development of Draft Sindh Urban Transport Policy which is currently in the approval process.</li> </ul>
<p><b>Sub-Output 2.3:</b> A strategic plan for the development of sustainable urban transport in Sindh Province</p> <p><b>Indicator 1:</b> Number of strategic integrated urban transport plans</p>	<p><b>Target 1:</b> 1 strategic plan for holistically planned integrated urban transport</p>	<ul style="list-style-type: none"> <li>Any such strategic plan for planned integrated urban transport did not materialize.</li> </ul>
<p><b>Sub- Output 2.4:</b> Approved and enforced Sindh provincial policy that enables development and operation of sustainable urban transport systems</p> <p><b>Indicator 1:</b> Number of provincial policies for developing sustainable urban transport for Sindh province</p>	<p><b>Target 1:</b> 1 approved Sindh provincial policy on sustainable urban transport with associated implementing rules and regulation (IRRs)</p>	<ul style="list-style-type: none"> <li>Draft Sindh Urban Transport Policy has been developed and is currently in the approval process</li> <li>Developed Provincial Environmental Quality Standards for the transport sector in Sindh province.</li> </ul>
<p><b>Sub-Output 2.5:</b> An operational demonstration BRT system</p> <p><b>Indicator 1:</b> Number of institutions with enhanced capacity to operate, maintain, and manage a BRT system</p> <p><b>Indicator 2:</b> Cumulative GHG reductions from the BRT demos in 02 cities of Sindh- ktonnes CO2</p> <p><b>Indicator 3:</b> Cumulative energy savings generated by BRT pilot demonstration</p> <p><b>Indicator 4:</b> % increase in public transit ridership</p> <p><b>Indicator 5:</b> Methodology and M&amp;E plan designed for the measurement of the specific energy and emission parameters</p>	<p><b>Target 1:</b> One operational BRT system with no. of institutions having enhanced capacity to operate, maintain, and manage a BRT system</p> <p><b>Target 2:</b> 10,140 tonnes of CO2 reduced by the BRT demonstration</p> <p><b>Target 3:</b> 490 toe of energy saved from BRT demonstration</p> <p><b>Target 4:</b> 4% increase in public transit ridership</p> <p><b>Target 5:</b> M&amp;E plan (including methodology) development for calculating energy &amp; emission savings</p>	<ul style="list-style-type: none"> <li>Currently there is no operational BRT system in Karachi. However work on Government sponsored Green and Orange line Metro is in progress</li> <li>No reduction as no operational BRT system is currently existing in Karachi.</li> <li>Project completed a Study on carbon emissions for the selected BRT line and potential for Clean Development Mechanism</li> </ul>

<b>Output 3: Improved energy efficiency in truck freight transport</b>	<p><b>Sub- Output 3.1:</b> Approved and enforced policies on energy efficiency in truck freight transport</p> <p><b>Indicator 1:</b> Number of background studies completed to support Trucking Policy implementation</p> <p><b>Indicator 2:</b> Number of implementing rules and regulations (IRRs) and implementing actions formulated and recommended for approval</p> <p><b>Indicator 3:</b> Number of IRRs approved and enforced</p>	<p><b>Target 1:</b> 10 background studies completed on supporting implementation of Trucking Policy</p> <p><b>Target 2:</b> 5 implementing rules and regulations formulated</p> <p><b>Target 3:</b> 5 IRRs approved and enforced</p>	<ul style="list-style-type: none"> <li>Project completed 10 background studies related to trucking sector in Pakistan (For detail list please see table of interventions under section 3.3.3 related to Efficiency )</li> <li>Project completed a number of studies related to Axle Load management, weight management, vehicle examination system and establishment of Central Data Repository for the motor registration (For detail list please see table of interventions under section 3.3.3 related to Efficiency )</li> <li>Work on such IRRs enforcement did not materialize</li> </ul>
	<p><b>Sub-Output 3.2:</b> Completed pilots to implement strategy to modernize trucking fleet</p> <p><b>Indicator 1:</b> Number of trucks involved with pilots to demonstrate energy efficiency objectives of Trucking Policy</p> <p><b>Indicator 2:</b> Cumulative GHG reductions from a pilot scheme to modernize the trucking fleet- ktonnes CO2</p> <p><b>Indicator 3:</b> Cumulative energy savings generated from truck modernization pilots</p>	<p><b>Target 1:</b> M&amp;E plan (including methodology) development for calculating energy &amp; emission savings based on 50 trucks involved in pilot</p> <p><b>Target 2:</b> 5 ktonnes CO2 (direct reduction from truck modernization programme)</p> <p><b>Target 3:</b> 150 toe of energy saved from truck modernization pilot</p>	<ul style="list-style-type: none"> <li>Work on truck modernization pilot did not materialize.</li> <li>Same as above</li> <li>Same as above</li> </ul>
<b>Output 4: Increased public awareness and institutional capacity on sustainable transport concepts</b>	<p><b>Sub-Output 3.3:</b> Established public-private partnerships (PPPs) in the modernization of the trucking fleet.</p> <p><b>Indicator 1:</b> Number of public-private partnerships (PPPs) for truck modernization</p> <p><b>Indicator 2:</b> Number of trucks planned for involvement in replication of pilots</p>	<p><b>Target 1:</b> 3 public-private partnerships (PPPs) established</p> <p><b>Target 2:</b> 2000 trucks involved in plans for replication of truck modernization</p>	<ul style="list-style-type: none"> <li>Work on such PPP establishment did not materialize.</li> <li>Work on truck modernization pilots did not materialize.</li> </ul>
	<p><b>Sub-Output 4.1:</b> Completed awareness raising campaigns on sustainable transport concepts</p> <p><b>Indicator 1:</b> Extent to which completed awareness raising campaigns have been effective</p> <p><b>Indicator 2:</b> Extent to which cities benefiting from awareness raising campaigns</p>	<p><b>Target 1:</b> 5 awareness raising campaigns conducted on concept of sustainability in transport sector, BRT as best model for SUT in Punjab, Sindh and Rawalpindi/Islamabad</p>	<ul style="list-style-type: none"> <li>Series of activities under the caption of Awareness Raising Campaigns from 2014-2016 had been undertaken involving all stakeholders in Lahore, Karachi, Rawalpindi and Islamabad. (For detail list please see table of interventions under section 3.3.3 related to Efficiency )</li> </ul>

**Target 2:** 3 cities where awareness raising campaigns have been conducted including; Karachi, Lahore and Rawalpindi/Islamabad

- Awareness raising campaigns had been under taken in 3 cities i.e. Lahore, Karachi, Rawalpindi and Islamabad etc.

**Sub-Output 4.2:** Completed training program on strategic urban land use and transportation planning conducted at various training, academic and vocational institutes in Pakistan  
**Indicator 1:** Number of completed training courses on strategic urban land use and sustainable urban transport planning (SUTP)

**Target 1:** 8 training courses related to strategic urban land use and sustainable urban transport area (3 courses in 2014; 3 courses in 2015; 2 courses in 2016)

- 8 trainings and capacity building events organized by the project where range of stakeholders were involved (For further detail please see table of interventions under section 3.3.3 related to Efficiency);
- Training Workshop on Climate Financing Opportunities
- Political Dialogue on “Sustainable Urban Transport in Pakistan”
- Training workshops for volunteers Rawalpindi-Islamabad-Metro-Bus-Service
- Training course on Carbon Finance with a specific focus on transport
- Training workshop on integrated Bus Rapid Transit was executed at Karachi and Islamabad
- National conference on sustainable transport at Islamabad.
- 3 Seminar for media on transport sector and related issues in Pakistan at Karachi.
- Policy dialogue on Urban Mobility and Transport
- Guidelines for curriculum on sustainable transport have been developed which are under process of development and adoption. The courses will be offered at Fatima Jinnah Women University, Rawalpindi and NED University, Karachi.

**Indicator 2:** Extent to which cities and provincial planners and students effectively trained on land use planning (LUP) and SUTP

**Target 2:** 30 city and provincial planners and students trained (10 city and provincial planners in 2014; 10 city and provincial planners in 2015; and 10 city and provincial planners in 2016)

**Indicator 3:** Number of educational institutes where LUP and SUTP courses are offered

**Target 3:** 4 educational institutes where LUP and SUTP courses offered

**Sub- Output 4.3:** Sharing experiences on integrated BRT development and implementation of the Trucking Policy

**Target 1:** 8 workshops on integrated BRT development (conducted by CIUs & reporting/dissemination by IUCN)

- More than 12 workshops, seminars and training were conducted by CIUs (For detail list please see table of interventions under section 3.3.3 related to Efficiency)

**Indicator 1:** Extent to which the completed workshops on integrated BRT development have been effective

**Target 2:** 8 workshops on Trucking Policy implementation completed (conducted by CIU-Trucking & reporting/dissemination by IUCN)

- 6 workshops, consultative dialogues, seminars were organized by CIU trucking (For detail list please see table of interventions under section 3.3.3 related to Efficiency)

**Indicator 2:** Extent to which the completed workshops on the implementation of the Trucking Policy have been effective

### 3.3.2 Relevance of Project interventions and results (Evaluation Rating: 2-Relevant)

Interviews with stakeholders, situation analysis and project documents suggest that overall project objectives and interventions were found highly relevant and consistent with Government of Pakistan policies, UNDP and GEF priorities and needs of the beneficiary institutions and communities.

Pakistan's National Environmental Policy (NEP 2005) specifically promotes the principles of sustainable transport under their sectoral guidelines for air quality and noise (i.e. regulation of vehicle emissions, enforcing fuel specifications, encouraging cost effective mass rapid transit systems etc). Pakistan has also undertaken a comprehensive inventory of Greenhouse gas (GHG) emission sources and has prioritized feasible mitigation options and formulated a GHG abatement strategy under the GEF/UNDP Asian Least Cost Greenhouse Gas Abatement Strategy (ALGAS).

In response to urban congestion and increasing GHG emissions from transport sector in Pakistan's largest urban centers, like Karachi, Lahore and Rawalpindi-Islamabad, efforts have been underway for a number of years to provide mass transit and especially BRT solutions. Due to greater interests of Government of Pakistan two Metro Bus Systems have been completed and operationalized in the cities of Lahore and Rawalpindi-Islamabad in 2013 and 2015 respectively and are presently successfully functioning. Similar efforts are also underway to extend Metro Bus Services in the cities of Karachi, Multan, Faisalabad and Peshawar etc. It can be easily concluded that this high level of interest and investments from governmental institutions in BRTs makes the project fully relevant and compliant with governmental priorities.

On the other hand, the road freight transport, especially old age trucks and practices, have been one of the primary causes of road congestion, fuel inefficiency and GHG emissions. With the importance of road freight to Pakistan's overall economy, the Government of Pakistan declared the trucking sector as a formal industry in January 2008 and adopted a "Trucking Policy" to improve the performance of the sector. However, the said policy lacked an implementation strategy and mechanisms. Project component-3 was found very relevant in the context of streamlining and implementation of trucking policy to subsequently improve fuel efficiency and reduction in GHGs.

In addition to its relevance to Government of Pakistan policies and priorities, project agenda is also highly relevant to UNDP and GEF global priorities of promoting the agenda of sustainable transport. GEF catalyzes transformational change by supporting sustainable transport, which reduces greenhouse gas emissions. GEF has built an investment portfolio that addresses emissions from the transport sector in developing and transition countries. GEF sustainable transport related projects are under way in several cities around the world, creating a sustained impact in the transport sector. Needless to emphasize that project agenda is also in line with Global SDGs, Goal 11: Sustainable Cities and Communities, Goal 12: Responsible Consumption and Production and, Goal 13: Climate Action.

Nevertheless, the project was also very relevant in addressing the needs of poor and low income classes living in major cities like Lahore, Rawalpindi, Islamabad, Karachi etc. by providing sustainable, convenient and affordable public BRT services and on the other hand providing them with cleaner and better environment through reduction in GHG emissions and local air pollutants, congestion and noise pollution.

### **3.3.3 Efficiency of Project Interventions (Evaluation Rating: 4-Moderately Satisfactory)**

The TOR defines efficiency as to what extent the inputs (resources and time) were used in the best possible way to achieve results. Generally, efficiency of project interventions can be assessed through three basic dimensions i.e. 1) economic utilization of financial resources with reference to stipulated budgetary allocations 2) timeliness of interventions with reference to allocated timeframe and, 3) quantity and specifications of project activities with reference to work plans.

Analysis of financial statements shows that the project has utilized around USD 5.4 Million (70%) of its total committed resources of USD 7.8 Million. Component wise expenditure details show that activities under Component-1 consumed around 33% of the total resources, followed by Component-4 at 22%, Component-2 at 17%, Component-3 at 15% and 13% was spent on operations and management. Component 2 and 3 were most underspent and could only utilize less than half of the allocated budgetary resources due to late start of the project. Year wise analysis suggests that project expenditures grew steadily since 2012 and were at the highest in 2015. Component wise allocations were made based on annual work plans and budgets, which were duly approved by the Project board. For further details, please see section 3.2.2.

Overall, it is concluded from analysis that project financial resources were managed and spent in an efficient, transparent and accountable manner, using UNDP standard (PCOM) procedures for financial management, procurement and recruitment processes, keeping in view the best value for money.

Over the years, PAKSTRAN Project has implemented a wide range of interventions and activities to achieve its stipulated outputs and outcomes. (Please see table below). Analysis suggests that the project has made rigorous efforts and commendable progress, however as mentioned in previous sections, implementation of project activities was considerably delayed due to a number of issues including time consumed by selections of suitable partners, lack of clarity and understanding of execution and organizational arrangements and time consuming and cumbersome implementation processes and procedures. Implementation started with slow pace and steadily gathered steam and most of project implementation took place from 2014 to 2016. Activities under component-3 could only be started as late as 2015.

Despite the complexity of working environment and involvement of diverse range of stakeholders, it is important to observe that the project has made strenuous efforts to catch up with the time lag and has considerably sped up the implementation of activities in the second half of its life. Discussion with stakeholders and review of records suggest that the overall quality of activities performed and technical, human and material inputs provided were found cost effective, instrumental, up to the mark and in line with the project stipulated aims and aspiration of stakeholders.

Following is the summary of component wise activities implemented during 2012-2016:

Component/Output	Main Interventions and Activities implemented (2012-2016)
<b>Component/Output-1: Operational Sustainable Urban Transport System in Punjab Province</b>	<p><b>Studies and Research works;</b></p> <ul style="list-style-type: none"> <li>• Study on Mapping of Environmental and Socio-Economic Profile Along BRT Corridor-1 From Gajjumatta to Shahdara</li> <li>• Study on 'mapping of land use and infrastructure along BRT corridor from Gajjumatta to Shahdara in Lahore</li> <li>• Study on Identification of Non-fare revenue generation opportunities for RWP-ISB Metro Bus system</li> <li>• Study on Implementation Strategy for Islamabad Bus Service (IBS)</li> <li>• Study on Assessment of the Vehicular Emissions' Status in the Pre and Post BRT Project Implementation Scenario at the Twin Cities, Rawalpindi and Islamabad.</li> <li>• Study on Peer Review of Feeder Route Networks Studies in Islamabad.</li> <li>• M&amp;E Plan for Energy &amp; GHG Emissions Reduction Benefits Calculations</li> </ul> <p><b>Events, Training and Awareness raising;</b></p> <ul style="list-style-type: none"> <li>• Workshop on “The Provision of Sustainable Public Transport System” (A step towards making a Green city), Lahore</li> <li>• Seminar on “GIS Applications in the Sustainable Urban Transport System, Lahore</li> <li>• 3 Days CDM Training in Lahore (Attended by 27 participants)</li> <li>• One week 'Training of Police Wardens' on Bus rapid Transit during the construction phase" in Rawalpindi (Attended by 30 participants)</li> <li>• Inauguration of Metro Bus Project Rawalpindi-Islamabad Bus Rapid Transit</li> <li>• One-week City Traffic Police training on Bus Rapid Transit (Batch-I) in Multan (Attended by 31 participants)</li> <li>• One-week City Traffic Police training on Bus Rapid Transit (Batch-II) in Multan (Attended by 27 participants)</li> <li>• 3-days training course was carried out at Bhurban on “Nationally Appropriate Mitigation Measures” (Attended by 27 participants)</li> <li>• Consultative Sessions for Academic Institutions/Universities of Rawalpindi and Islamabad on Sustainable Urban Transport for Awareness Raising amongst Students, Academicians &amp; Stakeholders.</li> </ul> <p><b>Research Centers;</b></p> <ul style="list-style-type: none"> <li>• Establishment of Research and Development Unit for Sustainable Urban Transport at DTEM, UET, Lahore</li> <li>• Establishment of Centre for Excellence for Sustainable Transport (CESTAC) at Fatimah Jinnah Women University, Rawalpindi</li> </ul>
<b>Component/Output-2: Operational sustainable urban transport system in Sindh Province</b>	<p><b>Studies and Research works;</b></p> <ul style="list-style-type: none"> <li>• Study on Institutional analysis outlining the impacts of stakeholders interests on BRT project design options in order to improve living and working conditions along Red BRT corridor</li> <li>• Study on survey of 'mini-cabs (Quinquis) to use as pick &amp; drop carrier/feeder routes on Green and Red BRT Lines to bring them under the ambit of law'</li> <li>• Study on survey of 'mini-cabs (Quinquis) to use as pick &amp; drop carrier/feeder routes on Orange and Yellow BRT Lines to bring them under the ambit of law'</li> <li>• Developed Provincial Environmental Quality Standards for the transport sector in</li> </ul>

Component/Output	Main Interventions and Activities implemented (2012-2016)
	<p>Sindh province.</p> <ul style="list-style-type: none"> <li>• Development of Sindh Urban Transport Policy and sharing with stakeholders</li> <li>• Developed Principle Guidelines for Urban Transport Policy</li> <li>• Study on carbon emissions for the selected BRT line and potential for Clean Development Mechanism.</li> <li>• Study on reviewing the motor vehicles laws and proposing amendments to support the Urban Transport Policy of Sindh and bringing it at par with Punjab</li> </ul> <p><b>Events, Training and Awareness raising;</b></p> <ul style="list-style-type: none"> <li>• One week articulated training for traffic police, transport officials, drivers of several of public service transport</li> <li>• A number of consultative Sessions held for development of Sindh Sustainable Urban Transport Policy</li> <li>• Workshop on Roles and Responsibilities of Institutions/Departments in Transport sector</li> <li>• Consultative workshop on Safety and Security of Transportation</li> <li>• Supported the Sindh Government in Establishment of Sindh Mass Transit Authority, which is a big achievement with regard to strengthening institutional framework.</li> <li>• CIU Sindh has regularly conducted numerous consultative sessions on weekly basis involving urban transport stakeholders</li> </ul>
<p><b>Component/Output-3:</b> <b>Improved energy efficiency in truck freight transport</b></p>	<p><b>Studies and Research works;</b></p> <ul style="list-style-type: none"> <li>• Study on Stocktaking on options for energy efficiency for truck freight transport</li> <li>• Study on CO<sub>2</sub> emissions from truck freight transport in a low-carbon scenario.</li> <li>• Study on assessment of CO<sub>2</sub> emissions from truck freight transport in a Business-As-Usual (BAU) scenario</li> <li>• Study on international best practices/trends in truck freight energy use and its linkage to the context of Pakistan</li> <li>• Study on environmental impacts of a major freight corridor</li> <li>• Study on the identification of gaps and strategy for the implementation of existing trucking policy</li> <li>• Study on Assessment of Axle Load management system in context of cross border trade (CPEC, Afghan Border, Iran etc.)</li> <li>• Study on modern weight stations to comply with international standards (cross border trade)</li> <li>• Study for modernizing the overall motor vehicle registration and establishment of “Central Data Repository” in the context of the road freight sector</li> <li>• Study for development of modernized truck freight examination system in Pakistan</li> <li>• Preparation of M&amp;E Plan by calculating energy and emissions saving in Trucking sector of Pakistan</li> </ul> <p><b>Events, Training and Awareness raising;</b></p> <ul style="list-style-type: none"> <li>• Consultative Session on truck freight transport in Pakistan held at Islamabad. (Attended by large number of participants from 25 different institutions)</li> </ul>

Component/Output	Main Interventions and Activities implemented (2012-2016)
	<ul style="list-style-type: none"> <li>• Seminar on modernization of truck freight transport in Pakistan was held at Karachi. (Attended by a large number of participants from 17 different institutions).</li> <li>• Exposure visit to Karachi Port Trust was held on November 6, 2016. (more than 50 participants from relevant stakeholders were involved)</li> <li>• Two-days training workshop on challenges of road truck freight transport in Pakistan held at Multan. (Attended by more than 50 participants)</li> <li>• Consultative dialogue session on trucking policy and an exposure visit held at Gwadar. (50 participants from relevant stakeholders)</li> <li>• Consultative Dialogue Session on Trucking Policy held at NED UET, Karachi. (Attended by more than 50 participants from relevant stakeholders)</li> </ul>
<b>Component/Output-4:</b> <b>Increased public awareness and institutional capacity on sustainable transport concepts</b>	<b>Events, Training and Awareness raising;</b> <ul style="list-style-type: none"> <li>• National conference on sustainable transport at Islamabad. Attended by a large number of representatives from the Government, media, academia, national and international NGOs.</li> <li>• Sensitization seminar for media on transport sector and related issues in Pakistan at Karachi. (Attended by more than 50 participants)</li> <li>• Two media seminars were organized. (51 participants from civil society and print and electronic media)</li> <li>• Policy dialogue on Urban Mobility and Transport was organized at NUST. (Attended by more than 150 stakeholders)</li> <li>• Series of activities under the caption of Awareness Raising Campaigns of 2014 and 2015 had been under taken at the higher education institutions in Lahore, Karachi, Rawalpindi and Islamabad. The campaign included poster competition, debate competition and video clip competition, particularly designed to ensure the participation of large number of students.</li> <li>• Political Dialogue on “Sustainable Urban Transport in Pakistan” was organized at Islamabad. The dialogue was attended by representatives of eight major political parties in the country.</li> <li>• Three-day awareness raising campaign was organized at Potohar Metro Bus Station, I-9, Islamabad.</li> <li>• Two training workshops were conducted for volunteers for the Inaugural Ceremony of Rawalpindi-Islamabad-Metro-Bus-Service (RIMBS)</li> <li>• Comprehensive Capacity Development Plan for the target groups in Punjab and Sindh developed through a consultative process.</li> <li>• Training course on Carbon Finance with a specific focus on transport organized at Karachi for 29 relevant institutions in which 49 people participated</li> <li>• National exposure visit was organized from to facilitate the capacity building of policy makers and concerned federal and provincial departments</li> <li>• Training workshop on integrated Bus Rapid Transit was executed at Karachi and Islamabad</li> <li>• Training Workshop on Climate Financing Opportunities at Islamabad for relevant stakeholders</li> <li>• Staff Training on financial management organized by MANGO.</li> <li>• International exposure visit to study the transport system of Seoul, South Korea was organized. A delegation of 11 staff members from the project participated</li> <li>• Participation of PMU, UNDP and IUCN personnel at the UNFCCC COP21 in France</li> </ul>

Component/Output	Main Interventions and Activities implemented (2012-2016)
	<ul style="list-style-type: none"> <li>• Awareness raising material including PAKSTRAN newsletter, calendars, Jareeda magazine, posters, stickers, notebooks, mugs, folders and project standees developed, displayed and disseminated.</li> <li>• Development and airing of documentary on "Sustainable Urban Transport" in collaboration with PTV.</li> <li>• Project website developed and periodically updated and maintained.</li> <li>• The PAKSTRAN pages on social networking sites developed and maintained</li> <li>• Guidelines for curriculum on transport have been developed which are under process of development and adoption. The courses will be offered at Fatima Jinnah Women University, Rawalpindi and NED University, Karachi.</li> </ul>
<b>Project Management, Operations, Coordination and M&amp;E</b>	<ul style="list-style-type: none"> <li>• Selection of IPs and RPs and establishment of PMUs and CIUs and recruitment of Project staff and preparation and signing of LoAs with partners</li> <li>• Establishment of Project Board and organization of PB meetings</li> <li>• Revision of Project results framework</li> <li>• Preparation, facilitation and approval of Annual Work Plans and quarterly and annual Progress reports</li> <li>• Preparation and implementation of M&amp;E Plan for project. Preparation of consolidated Logs (risk log; issues log; communication &amp; monitoring plan)</li> <li>• Overall Coordination of activities of PMU along with CIUs and other stakeholders (Meetings, consultations, presentations)</li> <li>• Facilitation of CIUs in Preparation of TORs and procurement process for related studies. PMU was also actively involved directly in execution of some studies like Assessment of vehicular emissions from BRT in Rawalpindi, Implementation strategy for devising action plan on Islamabad BUS Service and Review of feeder route Networks Studies in Islamabad etc.</li> <li>• PMU was also very actively involved in establishment of CESTAC at the FJWU in Rawalpindi</li> <li>• PMU was also rigorously involved in financial management and reporting of project budget and spending. This involved multiple requisition and reporting mechanisms in line with UNDP financial management and reporting procedures.</li> </ul>

### 3.3.4 Country Ownership

PAKSTRAN project was implemented using National Implementation (NIM) Modality with the Ministry of Water and Power, Government of Pakistan as main implementing partner. The project board was chaired by Secretary MoW&P and project was led by National Project Director, a high ranking official of the MoW&P. At the provincial level, project responsible parties included Government of Punjab, Government of Sindh and for trucking component project partnered with the Ministry of Communication, Government of Pakistan. These high levels of participation of governmental institutions suggest that project country ownership levels were optimal and governmental institutions were in the driving seat.

Government of Pakistan has been very keen and made strenuous efforts to address urban transport issues in big cities. In this regard the Government has implemented and operationalized Metro Bus Systems in the cities of Lahore and Rawalpindi-Islamabad and a number of BRT systems in big urban centers like Karachi, Multan, Faisalabad and Peshawar are either under progress or in the pipeline. These high levels of governmental interests also

suggest that there is a good deal of ownership at the country level especially for the promotion of sustainable public transport systems in urban centers.

### **3.3.5 Mainstreaming**

The ToR outlines that UNDP-supported GEF-financed projects are key components in UNDP country programming, as well as regional and global programmes. Therefore, the evaluation also assessed the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender. It is important to highlight that PAKSTRAN project was one of its kind therefore due to the distinctive nature and objectives it is found difficult to gauge the extent to which project was directly mainstreamed with other UNDP priority areas.

However, having said this, the project interventions indirectly corresponded and contributed to priority areas like improved governance, especially the capacity building and provision of technical support to governmental institutions in the context of urban transport management and promotion of truck freight transport. Indirectly, project also contributed to improving living conditions in urban areas through improving air quality through reduced GHG emissions and local air pollutants and reduced traffic congestion. Nevertheless, the improved BRT services in Lahore and Islamabad also provide safe, efficient, decent and cost efficient urban transit facilities to all citizens, especially the poor and women folk.

### **3.3.6 Effectiveness of Project Results (Evaluation Rating: 5-Satisfactory)**

PAKSTRAN project aimed at achieving the stipulated outcomes of reducing GHG emissions and increasing energy efficiency through achieving four main outputs, these included;

Outcome Component 1: An operational sustainable urban transport system in Punjab province

Outcome Component 2: An operational sustainable urban transport system in Sindh province

Outcome Component 3: Improved fuel efficiency in truck freight transport

Outcome Component 4: Increased public awareness and institutional capacity on Sustainable Transport concepts

Following is the details of achievement status of these outputs;

#### **1) Operational sustainable urban transport system in Punjab province**

Under this output, project provided necessary support for technical research, capacity building, coordination and awareness for promotion of sustainable transport in Punjab. Project main RP for this output was Urban Unit, P&DD Punjab and also involved other relevant stakeholders. Discussions suggest that collaboration between IP and RP remained somehow strained due to differences in understandings of project scope, priorities, roles of IP and RP and implementation modalities. Overall these differences at times hampered the trust between IP and RP and resulted in implementation delays.

Project interventions under this output mainly concentrated to support BRT systems in the cities of Lahore and Rawalpindi-Islamabad. Since Lahore Metro Bus project was completed, in

Feb 2013, before the practical operationalization of the project therefore project was not in a position to provide assistance in the design, feasibility and implementation stage of the project. However soon after the project actively collaborated with RP and stakeholders and expedited a number of studies regarding mapping of environmental and socio-economic profile and land use and infrastructure along BRT Lahore Corridor-1 and preparation of M&E Plan for GHG Emissions Reduction Benefits Calculations

On the other hand during the development and operationalization of Rawalpindi-Islamabad Metro Bus project, PAKSTRAN project was able to provide substantial support and has conducted a number of research work like identification of non-fare revenue generation opportunities for RWP-ISB Metro Bus, implementation strategy for Islamabad Bus Service (IBS), assessment of the vehicular emissions status in the pre and post BRT scenario in Rawalpindi and Islamabad and peer review of feeder route networks in Islamabad etc.

In addition to research works project also provided necessary support for capacity building of and coordination among stakeholders through organizing series of trainings, workshops and consultations on sustainable urban transport systems. Discussions with stakeholders suggest that these studies and capacity building interventions were found very instrumental in promotion of sustainable transport system in the cities of Lahore, Rawalpindi and Islamabad.

One of the most promising achievements of the project was the establishment of two Research Centers in public sectors universities i.e. 1) Research and Development Unit (R&DU) for Sustainable Urban Transport at the University of Engineering and Technology, Lahore and 2) Centre for Excellence for Sustainable Transport (CESTAC) at Fatimah Jinnah Women University, Rawalpindi. Though the establishment process took considerable time and the centers have been made operational very recently, however it is expected in the longer run these centers will play a central role in promoting research and development on sustainable transport in times to come. Discussions with the said universities officials also suggest that they are also in the process of introducing Bachelor and Master Level courses on sustainable transport in the near future.

In nutshell, it can be concluded that despite a number of impediments and complex work environment the project has contributed through providing technical assistance in the operationalization and promotion of sustainable transport systems especially in the cities of Lahore, Islamabad and Rawalpindi of Punjab Province and Federal Capital.

## **2) Operational sustainable urban transport system in Sindh province**

Under this output, project provided necessary support for technical research, capacity building, coordination and awareness for promotion of sustainable transport in Sindh. Project main RP for this output was Sindh Department of Transport and also involved other relevant stakeholders.

Project interventions under this output mainly concentrated to support development BRT systems mainly in Karachi city. In this regard project, in collaboration with stakeholders,

expedited a number of studies for promotion of sustainable transport in general and BRT in particular. These included institutional analysis of stakeholder's interests on BRT project design options, survey of 'mini-cabs (Quinquis) on feeder routes on proposed BRT Lines, development of Provincial Environmental Quality Standards for the transport sector and study on carbon emissions for the selected BRT line and review of the motor vehicles laws and proposed amendments (e.g.76 Motor Vehicle Laws reviewed and adopted).

In addition to research works the project also provided necessary support for capacity building of and coordination among stakeholders through organizing series of trainings, workshops and consultations on sustainable urban transport systems. Project established a technical committee comprising wide range of stakeholders, which met on regularly, almost on weekly basis, and consultations were held on range of sustainable transport related issues and interventions.

Presently physical work on two BRT Lines, in Karachi, is in full progress i.e. Orange Line and Green Lines, sponsored by GoS and GoP respectively. Discussions with stakeholders suggest that project technical, capacity building, awareness and coordination related interventions were found very instrumental in promotion of sustainable transport system in general and providing support for ongoing BRT projects in particular. Needless to emphasize that project close collaboration and interaction with stakeholders also greatly helped improving coordination among wide range stakeholders

One of the most promising achievements of the project is the facilitation of the development of Sindh Urban Transport Policy. The said policy was formulated in close and rigorous consultations with all stakeholders and by now it is in the final stages of its approval. The main objectives of the proposed policy is to meet the basic access and development needs of all beneficiaries, to provide a transport system that is affordable and efficient, and to limit emissions of GHGs and waste. Once approved and implemented the policy will greatly help in improving and promoting sustainable urban transport systems in Sindh. Nevertheless project also supported the Sindh Government in Establishment of Sindh Mass Transit Authority, which is considered a big achievement regarding strengthening institutional framework.

In nutshell, despite the late start and complex work environment it can be concluded the project has handsomely contributed through providing technical assistance in the streamlining and promotion of sustainable transport systems especially in the under completion BRT systems in Karachi.

### **3) Improved fuel efficiency in truck freight transport**

Under this output, project provided necessary support for technical research, capacity building, coordination and awareness for promotion of improved fuel efficiency in truck freight transport. Project main RP for this output was Ministry of Communication, Government of Pakistan and also involved other relevant stakeholders.

Interventions under this output mainly concentrated to support implementation of trucking policy (2007) and to improve knowledge base in fuel efficiency of truck freight. In this regard project, in collaboration with stakeholders, expedited a good number of studies related to energy efficiency for truck transport, CO<sub>2</sub> emissions from truck freight transport, best practices in truck energy use, environmental impacts of freight corridors, strategy for the implementation of trucking policy, load management systems for truck freight, modernizing motor vehicle registration and modernized truck freight examination system etc.

In addition to good deal of research works, project also provided necessary support for capacity building of and coordination among stakeholders through organizing series of trainings, workshops and consultations on trucking policy and improving efficiency of truck freight transport. It is important to highlight that work on this component started very late, in March 2015, therefore despite rigorous efforts work on some of the sub-outputs outlined in the revised results framework could not be expedited these included pilots to implement strategy to modernize trucking fleet and to established public-private partnerships (PPPs) in the modernization of the trucking fleet. Overall the project aim was to reduce GHG emissions through these pilots for modernization of trucks therefore non implementation of these interventions had its own implications for project overall outcomes.

In nutshell, discussions with stakeholders and review of records suggest that the quality of these studies and capacity building interventions was very good, as they were mostly executed through very reputable academic institutions like NUST and NED etc. Stakeholders, especially governmental institutions, found the technical assistance of project instrumental in streamlining mechanisms for the implementation of trucking policy and enhancing knowledge base in fuel efficiency of truck freight in Pakistan. Project records also suggest that due to the efforts of the project, the Ministry of Planning, Development and Reforms has taken ownership of the trucking policy and its implementation, as the ministry has the lead role in implementing the China Pakistan Economic Corridor (CPEC).

#### **4) Increased public awareness and institutional capacity on sustainable transport concepts**

Under this output, project provided necessary support for increased public awareness and institutional capacity on sustainable transport concepts. This output was cross cutting in nature and supported all other three outputs and overall project outcome. Project main RP for this output was International Union for Conservation of Nature (IUCN) and involved wide range of relevant stakeholders.

Interventions under this output were mainly related to awareness raising and building of institutional capacities. A wide range of stakeholders were involved and engaged including governmental institutions, universities, media, politicians, students, transports and local populations. A good number of interventions including trainings, workshops, national conferences, dialogues, seminars, campaigns, and competitions were implemented involving foresaid stakeholders. According to estimates from project records in total 3958 persons among various stakeholders directly participated in these capacity building and awareness interventions of the project. In addition an international exposure visit to study the transport

system of Seoul, South Korea was also organized for members of project staff and relevant partners.

Furthermore, a diverse array of awareness material including PAKSTRAN newsletter, calendars, Jareeda magazine, posters, stickers, notebooks, mugs, folders and project standees were developed, displayed and disseminated among stakeholders from time to time. The project also created and aired a documentary on "Sustainable Urban Transport" in collaboration with PTV. Project website and social media pages were developed and periodically updated and maintained. Nevertheless project also helped in formulation of guidelines for curriculum on transport related courses, which after finalization will be offered at the bachelor and master level at FJWU and NED Universities. (Please see detail list of interventions in previous section)

Discussions with stakeholders and review of project documents suggest that sustainable transport remained a much neglected subject and there is little awareness among stakeholders about its concepts and modalities. Project awareness and capacity building interventions were found very instrumental in bringing the issue of sustainable transport to lime light and helped the stakeholders in understanding various concepts, dimensions, applications and benefits of sustainable transport. Interventions under this output also played a catalyst role for achieving other project outputs.

### **3.3.7 Sustainability of Project Interventions and Results (Evaluation Rating: 4-Likely)**

The ToR defines sustainability in terms of financial resources, socio-economic, institutional framework and governance, environmental, and overall likelihood. Following is a brief description of each of these criteria;

a) Financial Resources: In recent years Government of Pakistan has been very keen and has provided sufficient and timely financial resources for the successful implementation and operationalization of Lahore and Rawalpindi-Islamabad Metro Bus Systems. Similarly provincial governments of Punjab and Sind have also allocated adequate financial resources of upcoming BRT systems in other big cities. From these high levels of interest and investments in BRT, it can be deduced that existing and upcoming BRT systems are likely to be financially sustained by the government in the future.

On the other hand, project interventions related to research work, capacity building, coordination and awareness raising etc. were found very instrumental and there is still a continuous need for such interventions in times to come. However, it is not clear that in the absence of PAKSTRAN support how will these interventions be financed, as the governmental funding is mostly dedicated for the hardware. Furthermore, the project has established two R&D Centers at UET and FJWU, however these centers are at very early stages of development and still need to be supported technically and especially financially in the shorter run to make them productive and self-sustaining.

b) Socio-economic: Project interventions especially related to BRT in big cities are found highly socially acceptable and are duly appreciated by the masses. These services provide the common

citizen a safe, efficient, cost effective, and decent mode of urban transport in the congested urban environment. Therefore, it can be deduced that socially there is no barrier to sustainability.

c) Institutional Framework and Governance: Government of Punjab has recently established a Metro Bus Authority to operate, maintain and improve BRT systems. In Karachi, efforts are also underway to establish such an institution to operate and take care of the upcoming BRT systems. In view of these institutional efforts, it can be deduced that adequate institutional framework and governance is likely to be further strengthened and sustained in times to come.

d) Environmental: Environmentally, the project is found most feasible in improving living and environmental conditions through reduction of GHG emissions, traffic congestion and noise pollution etc. There is no environmental barrier in sustainability.

e) Overall: In view of the high level of relevance and demand and keen interest, will and significant investments of the Federal and respective Provincial Governments in BRT, it can be easily concluded that the completed and forthcoming BRT systems will be adequately sustained and the benefits will continue to flow in times to come. Similarly, the strategies for implementation of trucking policy also enjoy high level of ownership from the Government and it is likely that benefits will continue to flow in the future.

### **3.3.8 Impact of Project Interventions and Results**

PAKSTRAN project overall outcome was to reduce GHG emissions associated with urban transportation. Two main indicators were identified to measure the stipulated outcome i.e. 1) Cumulative, direct CO<sub>2</sub> emission reductions in the urban transport sector compared to BAU scenario over a 20-year period (Target: 608 ktonnes CO<sub>2</sub>) and, 2) Cumulative, direct CO<sub>2</sub> emission reductions from a pilot scheme to modernize the trucking fleet compared to BAU scenario over a 10-year period (Target: 5 ktonnes CO<sub>2</sub>). Originally, these calculations were based on direct emission reductions from two BRT demonstrations, one each in Punjab and Sindh and, one pilot truck modernization initiative involving a fleet of 50 trucks.

Discussion and review of records suggest that the proposed BRT demonstrations and pilots for modernization of trucks could not be implemented as such as envisaged by the original project design. However, it was expected that the required project target for reduction in GHG emissions could be achieved through the two operational Metro Bus systems in Lahore and Islamabad-Rawalpindi. The envisaged GHG reduction target for Karachi did not materialize as the establishment of Orange and Green line Metro System is still under progress.

In August 2016, the project completed a study on estimation of greenhouse gas emissions status before and after metro bus project implementation along the Metro Bus Corridor RWP-ISB. The finding of the study revealed that the net reduction in CO<sub>2</sub> from RWP-ISB Metro Bus is 4486.76 tons annually. This reduction is due to avoidance of using the personal vehicles by 9% of the current commuters of Metro bus and reduction of another 668 number of public

transport vehicles along the Metro route. If these CO<sub>2</sub> figures are projected for 20 year BAU scenario, then the total reduction in CO<sub>2</sub> from RWP-ISB Metro will be around 89.7 ktonnes.

Presently there is no estimations available regarding reduction of CO<sub>2</sub> from Lahore Metro Bus. However, keeping in view the similar nature of the two BRTs (RWP-ISB Metro total length 22.5 Km with 24 stations, Lahore Metro total length 27 Km with 27 stations), it can be easily assumed that Lahore Metro will also reduce CO<sub>2</sub> emissions at least by the same amount. Therefore, it is expected that total reduction in CO<sub>2</sub> from the two BRTs in RWP-ISB and Lahore will be around total 179.4 ktonnes as compared to BAU scenario over a 20-year period. These calculations prove that BRT has very effective role in reduction of CO<sub>2</sub> emissions. However, in view of the results of the above mentioned study, it is also important to highlight that the original project target of CO<sub>2</sub> reduction of 608 ktonnes from the two BRT demonstrations was calculated too ambitiously. On the other hand, the second indicator for CO<sub>2</sub> emission reductions from a pilot scheme to modernize the trucking fleet could not be achieved due to non-implementation of the pilot for modernization of trucking fleet.

#### 4. MAIN CONCLUSIONS AND RECOMMENDATIONS

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Based on the detailed analysis and findings of the evaluation exercise following are the main conclusions and recommendations:

##### **a) Overall Relevance and Continuity of Technical Support**

PAKSTRAN project was highly relevant and instrumental in bringing forth and addressing issues of sustainable transport and provided technical support in implementation of BRT systems in large urban centers. However, the issues of the transport sector are very complex, time and resource consuming. On the other hand, it is also important to highlight that the trucking sector also remains one of the neglected sectors. The project has handsomely contributed to it, but the work has just started and there is a long road ahead.

**Recommendation 1:** It is recommended that technical and capacity building support to urban transport (BRT) and trucking sector should continue. In this regard, sound concept papers for future projects should be prepared and shared with relevant donors and institutions like Green Climate Fund (GCF) etc. to secure necessary funding. For the trucking sector, possibilities of securing funds from China Pakistan Economic Corridor Programme and private sector also need to be explored.

##### **b) Project Design and Results Framework**

PAKSTRAN Project was originally designed in 2010, with total budget of around USD 78 Million, including USD 70 Million from the Government and other partners. However, the stipulated contributions did not materialize and the project was implemented with budgetary resources of USD 7.8 Million, provided by GEF and UNDP. In addition, during project implementation, circumstances of the urban transport sector also kept continuously changing. Overall, the original project results framework was well formulated and exhibited clear linkages among sub-outputs, outputs and outcomes. However, the changes in budgetary resources and circumstances had its own implications for project design and achievement of project outputs and outcomes. The project's Results Framework was accordingly revised and adjusted, but the outcomes and outputs remained the same.

**Recommendation 2:** It is recommended that future such projects need to be designed using a theory of change approach through rigorously involving all stakeholders in all stages of project formulation. Stakeholders' financial commitments and roles and obligations also need to be clearly defined and agreed upon well in advance. Project design should also duly incorporate the elements of flexibility to allow for desired changes during implementation.

##### **c) Overall Project Efficiency, Management and Implementation**

Given the complexity of circumstances, the project has made rigorous efforts and considerable progress towards achieving its outputs and outcomes. As a technical assistance project, project interventions were mainly geared towards providing desired support in the areas of technical research, capacity building, coordination and awareness raising etc. However, the project also faced a number of management and implementation issues which considerably delayed project start and implementation of activities.

Main issues included changes in the project's original Implementing Partner and Responsible Parties, frequent turnover of the NPDs and project staff, lack of clarity and understanding of execution and organizational arrangements, lack of coordination/understanding especially between IP and RP in Punjab, late releases of funds and cumbersome work planning, management and approval processes.

**Recommendation 3:** It is recommended that in future such projects, partners should be selected carefully keeping in view their relevance, expertise, interest and commitment and, their roles and obligations should be very clearly defined and agreed upon. Similarly, agreement/contracts (LOAs) with all partners should also be signed before project inception.

**Recommendation 4:** It is recommended that in the timeframes of future such projects, adequate time should be designated for formation of governing bodies/structures, establishment of offices, recruitment of staff, procurement of goods and services, formulation of necessary implementation processes and procedures. Needless to emphasize that project schedules should also provide necessary allowance and flexibility for unforeseen delays and road blocks.

**Recommendation 5:** It is also recommended that in such projects, with matrix organizational structures, where multiple and independent partners are involved, coordination among stakeholders should be further strengthened. Regular six-monthly and annual review and coordination meeting/workshops can greatly help in improving coordination among stakeholders. If needed, technical committees should be established at the component level to further facilitate coordination among stakeholders.

**Recommendation 6:** It is recommended that UNDP project management and operational processes like work planning, recruitment, procurement, monitoring and evaluation, progress reporting and fund releases etc. need to be further simplified and made more swift and efficient. Moreover, UNDP should duly train and build the capacities of stakeholders in UNDP-PCOM procedures at the time of project start and provide periodic refreshers.

#### **d) Effectiveness of Project Results**

Through implementation of a wide range of interventions, project contributed to achieve its four outcomes related to sustainable urban transport in Punjab and Sindh, fuel efficiency in truck freight transport and awareness raising. Support was provided in development and/or operationalization of BRT systems in the cities of Lahore and Rawalpindi-Islamabad and Karachi. Research and policy works, institutional capacity building and awareness raising remained the hallmark interventions. In addition, sustainable transport research centers were established at FJWU Rawalpindi and UET Lahore, to cater for future needs.

**Recommendation 7:** It is recommended that project research works and all knowledge products should be widely shared and disseminated to relevant stakeholders for their reference and use. Presently, these resources are available online on PAKSTRAN website, however after

the termination of project either the site needs to be maintained or these valuable resources should be moved either to IUCN or UNDP website to make them available for times to come.

**Recommendation 8:** As mentioned, the project has contributed handsomely to transport related policy work. However, there is a lot more to be done, therefore it is recommended to rigorously pursue Sindh Transport Policy approval process and finalization of strategies for trucking policy 2007. Similarly, development of transport policies for other provinces also needs to be duly considered and prioritized.

#### **e) Sustainability of project interventions and benefits**

In view of the high level of relevance and demand and keen interest, will and significant investments of the Federal and respective Provincial Governments in BRT in Lahore, Islamabad, Rawalpindi and Karachi, it can be easily concluded that the completed and forthcoming BRT systems will be adequately sustained and the benefits will continue to flow. Similarly, the policy works also enjoy high level of ownership from the Government. However, in the wake of upcoming BRT systems in other cities, there is still a good demand and need for project interventions related to research work, capacity building and awareness raising in times to come. Though it is not very clear that in the absence of PAKSTRAN support how will these interventions be financed.

**Recommendation 9:** Project has established two sustainable transport research centers at FJW University Rawalpindi and UET Lahore, to cater for future research needs. These centers are still in very early stage of development. Therefore, it is strongly recommended that these centers should be supported technically and financially in the shorter run to make them productive and sustainable in the longer run. Furthermore, these centers need to be connected to other donors, institutions and industry for sustainability purposes.

#### **f) Overall Impact of Project**

PAKSTRAN project overall outcome was to reduce GHG emissions associated with urban transportation. Estimates from 2016 project study on greenhouse gas emissions status before and after metro bus project implementation along the Metro Bus Corridor RWP-ISB, suggests that the net reduction in CO<sub>2</sub> from RWP-ISB Metro Bus is around 4486.76 tons annually. For 20 year BAU scenario it comes to around 89.7 ktonnes. If the same estimates are applied to Lahore Metro, then the assumed cumulative total reduction in CO<sub>2</sub> will be around 179.4 ktonnes as compared to BAU scenario over a 20-year period. It is important to highlight that the original project target of CO<sub>2</sub> reduction, from the two project envisioned BRT demonstrations, was 608 ktonnes for 20 year BAU. Results of the mentioned study shows that project targets were calculated too ambitiously.

**Recommendation 10:** It is recommended that in future such projects, targets related to outcome and impact indicators need to be realistically determined and should be based on sound calculations and realistic estimation, keeping in view its achievability status and ease of measurability.

## Annex-1

List of persons met/interviewed	Place
<ol style="list-style-type: none"> <li>1. Mr. Aman Ullah Khan, ACD, UNDP</li> <li>2. Mr. Usman Manzoor, Program Officer UNDP</li> <li>3. Dr. Saleem Janjua NPM, PAKSTRAN</li> <li>4. Mr. Hameed Akhtar, Component Director, Trucking, Ministry of Communication</li> <li>5. Mr. Irfan Haider Component Manager, Trucking</li> <li>6. Mr. Khan Ghulam, M&amp;E Officer, PAKSTRAN</li> <li>7. Mr. Omar Qazi, Director BRT, Capital Development Authority</li> <li>8. Mr. Azam Lodhi, Director, Traffic Engineering, Capital Development Authority</li> <li>9. Ms. Fauzia Malik, Component Manager, Awareness, IUCN, Pakistan</li> <li>10. Dr. Uzra Rafiq, Dean, Co-chair CESTAC, FJWU, Rawalpindi</li> <li>11. Dr. Sofia Khalid, Environmental Sciences, FJWU, Rawalpindi</li> <li>12. Ms. Nagin Tariq, Research Officer, CESTAC, FJWU, Rawalpindi</li> <li>13. Ms. Alamas Khurshid, Research Officer, CESTAC, FJWU, Rawalpindi</li> </ol>	Islamabad/ Rawalpindi
<ol style="list-style-type: none"> <li>14. Mr. Mahmood Akhtar Cheema, Component Director, Awareness, County Representative, IUCN, Pakistan</li> <li>15. Mr. Fazal Karim Khatri, Component Director, Sindh Component</li> <li>16. Mr. Yar Mohammad, Component Manager, Sindh Component</li> <li>17. Dr. Shaber , NED University</li> <li>18. Haji Mohammad Afzal, Sindh Bus Owner Association</li> </ol>	Karachi
<ol style="list-style-type: none"> <li>19. Mr. Nasir Javaid, Component Director, Punjab Component</li> <li>20. Dr. Abdul Sattar, Dean, UET, Lahore</li> <li>21. Dr. Ammad Hussain, Chairman DTE, UET, Lahore, Chair R&amp;D Unit.</li> <li>22. Mr. Mohammad Aniq Gul, Research officer, R&amp;D Unit, UET, Lahore</li> </ol>	Lahore
<p>In addition to above meetings the evaluator also had the opportunity to attend Project workshops/meeting on;</p> <ul style="list-style-type: none"> <li>• Climate Financing Opportunities in Islamabad,</li> <li>• Presentation of Trucking related studies at NTRC, Islamabad</li> <li>• Consultative meeting of transport sector stakeholders in Sindh, Karachi</li> </ul>	

## ANNEX-2

### TERMINAL EVALUATION TERMS OF REFERENCE

#### INTRODUCTION

In accordance with United Nations Development Programme (UNDP) and GEF M&E policies and procedures, all full and medium-sized UNDP supported GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the Pakistan Sustainable Transport (PAKSTRAN) project (Project ID: PIMS No. 3953).

The essentials of the project to be evaluated are as follows:

#### PROJECT SUMMARY TABLE

Project Title:	<b>“Pakistan Sustainable Transport PAKSTRAN Project”</b>			
GEF Project ID:	3539	<b>Project financing</b>	<i>at endorsement (Million US\$)</i>	<i>at completion (Million US\$)</i>
UNDP Project ID:	PIMS 3953	GEF financing:	4.8	\$ 4.8
Country:	Pakistan	UNDP contribution:	\$ 3	\$ 3
Region:	Asia and the Pacific	Government:	\$ 64.360	
Focal Area:	Climate Change Mitigation	World Bank	3	
		JICA	2	
FA Objectives, (OP/SP):	Sustainable Transport System	Total co-financing:	69.360	
Executing Agency:	Ministry of Water & Power, Government of Pakistan	Total Project Cost:	\$78.020	\$7.8
Other Partners involved:	<ul style="list-style-type: none"> <li>• Government of Punjab</li> <li>• Government of Sindh</li> <li>• Ministry of</li> </ul>	ProDoc Signature (date project began):		June 2011
		(Operational) Closing Date:	Proposed:	Actual:

	Communications • IUCN		30 September 2016	31 December 2016
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## OBJECTIVE AND SCOPE

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Pakistan Sustainable Transport (PAKSTRAN) project (Project ID: 00072773; PIMS No. 3953) is an initiative of UNDP-GEF and the Government of Pakistan that aims to provide technical assistance to reduce the growth of energy consumption and related greenhouse gas (GHG) emissions from transport sector in Pakistan, while simultaneously improving urban environmental conditions and improving Pakistan's trade competitiveness.

The global objective of PAKSTRAN is to reduce the GHG emissions from transport sector in Pakistan. The developmental objectives of PAKSTRAN are: to improve urban environmental conditions (i.e. improved air quality, urban mobility, equity, city aesthetics); and to improve energy security for Pakistan.

Moreover, the project has four components (to achieve outcomes), which are given below:

**Outcome 1:** *An operational sustainable urban transport system in Punjab province (Punjab P&D Department is the Responsible Partner-RP to achieve this outcome);*

**Outcome 2:** *An operational sustainable urban transport system in Sindh province (Sindh Transport Department is the Responsible Partner-RP to achieve this outcome);*

**Outcome 3:** *Improved fuel efficiency in truck freight transport (Ministry of Communications is the Responsible Partner-RP for this outcome); &*

**Outcome 4:** *Increased public awareness and institutional capacity on sustainable transport concepts (IUCN-Pakistan is the Responsible Partner-RP for this outcome).*

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

## EVALUATION APPROACH AND METHOD

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An overall approach and method<sup>1</sup> for conducting project terminal evaluations of UNDP supported GEF projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (Annex C) The evaluator is expected to amend, complete and submit this matrix as part of an TE inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Lahore and Karachi. Interviews will be held with the following organizations and individuals at a minimum: National Project Director (NPD) and National Project Manager (NPM) of PAKSTRAN, Component Manager and Component Director CIU-Sindh, Component Manager and Component Director CIU-Punjab, Component Manager and Component Director CIU-Trucking, and Component Manager and Component Director CIU-IUCN.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual PRs, project budget revisions, midterm review, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in Annex B of this Terms of Reference.

## EVALUATION CRITERIA & RATINGS

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An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see Annex A), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability**

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<sup>1</sup> For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

**and impact.** Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in Annex D.

<b>Evaluation Ratings:</b>			
<b>1. Monitoring and Evaluation</b>	<i>rating</i>	<b>2. IA&amp; EA Execution</b>	<i>rating</i>
M&E design at entry		Quality of UNDP Implementation– Implementing Agency (IA)	
M&E Plan Implementation		Quality of Execution - Executing Agencies(EAs)- Ministry of Water and Power (IP), P&DD Punjab (RP), Transport Dept. Sindh (RP), Ministry of Communications (RP), IUCN (RP)	
Overall quality of M&E		Overall quality of Implementation / Execution	
<b>3. Assessment of Outcomes</b>	<i>rating</i>	<b>4. Sustainability</b>	<i>rating</i>
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental:	
		Overall likelihood of sustainability:	

## **PROJECT FINANCE / COFINANCE**

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US\$)		GEF (mill. US\$)		Partner Agency (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants								
Loans/Concessions								
• In-kind support								
• Government								
• World Bank								
• JICA								

• Provinces								
Totals								

## MAINSTREAMING

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UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

## IMPACT

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The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.<sup>2</sup>

## CONCLUSIONS, RECOMMENDATIONS & LESSONS

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The evaluation report must include a chapter providing a set of **conclusions, recommendations** and **lessons**.

## IMPLEMENTATION ARRANGEMENTS

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The principal responsibility for managing this evaluation resides with the UNDP CO in **Pakistan**. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

## EVALUATION TIMEFRAME

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The total duration of the evaluation will be **30** days over a time period of two months during December 2016 and January 2017. according to the following plan:

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<sup>2</sup>A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROTI Handbook 2009](#)

## EVALUATION DELIVERABLES

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The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
<b>Inception Report</b>	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission	Evaluator submits to UNDP CO
<b>Presentation</b>	Initial Findings	End of evaluation mission	To project management, UNDP CO
<b>Draft Final Report</b>	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission	Sent to CO, reviewed by RTA, PCU, AF OFPs
<b>Final Report*</b>	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to CO for uploading to UNDP ERC

\*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report. An audit trail template is available in Annex H.

## TEAM COMPOSITION

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The evaluation team will be composed of **1 National Evaluator**. The consultant shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications:

- Minimum **10** years of relevant professional experience;
- Knowledge of UNDP and GEF;
- Experience working in evaluation of similar kind of projects will be considered an asset.
- Previous experience with results-based monitoring and evaluation methodologies;
- Technical knowledge in the targeted focal area(s): Transport, Sustainability and related fields;
- Project evaluation/review experiences within United Nations system will be considered an asset;
- A Master's degree in climate change related discipline, environmental science/management, transport, urban planning or other closely related field.

## EVALUATOR ETHICS

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Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'

## PAYMENT MODALITIES AND SPECIFICATIONS

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%	Milestone
10%	Following submission and approval of TE mission inception report
40%	Following submission and approval of the 1ST draft terminal evaluation report
50%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

## APPLICATION PROCESS

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Applicants are requested to apply online on the following link:

<http://jobs.undp.org/> by 1<sup>st</sup> November 2016. Individual consultants are invited to submit applications together with their CV for these positions. The application should contain a current and complete C.V. in English with indication of the e-mail and phone contact. Shortlisted candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, per diem and travel costs).

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

### **Annex-3: Summary of Field Visits**

- 16-28 December 2016: Islamabad-Rawalpindi (Meetings with stakeholders and attended project workshops)
- 29-31 December 2016: Lahore (Meetings with stakeholders in Punjab Province)
- 03-06 January 2017: Karachi (Meetings with stakeholders in Sind Province)

For details of people met please see Annex-1

### **Annex 4: List of Documents Reviewed**

- Project Document signed Version
- Annual Progress Reports
- Consolidated Progress Reports
- Annual Work Plans
- Minutes of the Project Board Meetings
- Mid-Term Review Report
- Financial Statements
- Revised Results and Resource Frameworks
- Project technical studies, Training Reports etc.

## Annex-5: Evaluation Matrix

Evaluative Criteria Questions	Indicators	Sources	Methodology
<b>Relevance: How does the project relate to the main objectives of the AF focal area, and to the environment and development priorities at the local, regional and national levels?</b>			
<ul style="list-style-type: none"> <li>Was/Is the project a good idea given the situation needing improvement?</li> </ul>	Strengthened Institutional capacities to develop policies and plans for establishing sustainable urban transport system in the country.	<ul style="list-style-type: none"> <li>Progress Reports</li> <li>Mid-Term Evaluation Report</li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>
<ul style="list-style-type: none"> <li>Does it deal with target group priorities? Why or why not?</li> </ul>	Background studies completed to support BRT operations in Lahore, Rawalpindi/Islamabad and Karachi.	<ul style="list-style-type: none"> <li>Annual Reports</li> <li>Mid-Term Evaluation Report</li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>
<b>Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?</b>			
<ul style="list-style-type: none"> <li>Have the planned purpose and component objectives, outputs and activities been achieved?</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable transport policies developed for materialising the concept of sustainable urban/freight transport.</li> <li>Research centres established to carry on research on transport and climate change beyond the project life.</li> <li>Capacity development programmes developed and implemented</li> </ul>	<ul style="list-style-type: none"> <li>Annual Reports</li> <li>Mid-Term Evaluation Report</li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>
<b>Efficiency: Was the project implemented efficiently, in-line with National and national norms and standards?</b>			
<ul style="list-style-type: none"> <li>Were inputs (resources and time) used in the best possible way to achieve outcomes?</li> </ul>	Human and technical capacities developed of the officials from various transport related institutions.	<ul style="list-style-type: none"> <li>Annual Reports</li> <li>Mid-Term Evaluation Report</li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>
<b>Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?</b>			
<ul style="list-style-type: none"> <li>To what extent has the project contributed towards its longer-term goals? Why or why not? What unanticipated positive or negative consequences did the project have? Why did they arise?</li> </ul>	Improved living conditions through improvement in environmental quality and transport system in target cities of the country.	<ul style="list-style-type: none"> <li>Annual Mid-Term Evaluation Report</li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>
<ul style="list-style-type: none"> <li>To what extent has the project contributed towards risks and environmental issues (or other long-term goals)?</li> </ul>	Project built capacities of the people and developed policies to reduce negative impacts of transport in targeted cities in particular and in the country in general.	<ul style="list-style-type: none"> <li>Annual Reports</li> <li>Mid-Term Evaluation Report</li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>
<ul style="list-style-type: none"> <li>What are the remaining risks to project sustainability?</li> </ul>	Lack of political will to keep continue working on establishing/maintaining the sustainable transport system in the country.	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?</b>			
<ul style="list-style-type: none"> <li>Will there be continued positive impacts as a result of the project once it has finished?</li> </ul>	Continued research work of the established centres and the BRT systems in the selected cities.	<ul style="list-style-type: none"> <li>Annual Reports</li> <li>Mid-Term Evaluation Report</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Individual Interviews</li> <li>Desk Reviews</li> <li>Reports</li> </ul>

## **Annex-6: Evaluation Questions for TE of PASTRAN**

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Due to the qualitative nature of methodology employed no structured quantitative questionnaire was used, however following are the main questions discussed with respondents during individual and group discussions:

### **1. Relevance and Design**

- What is the present level of relevance of the project?
- Are the project overall objectives consistent with, and supportive of Partner Government policies?
- Does the project respond to the needs of the key partners?
- Was the project aligned with government and UNDP priorities?
- Was the project appropriate to the local context?
- Are the project objectives and results clear and logical, and do they address clearly identified needs?
- Are there suitable and informative targets, e.g. are they Specific, Measurable, Achievable, Realistic and Time-bound (SMART)?
- Are the activities and outputs planned appropriately to achieve the project outcomes?
- Have key stakeholders been involved in the design process
- Are coordination, management and financing arrangements clearly defined
- Are the objectives clearly understood by the project partners?
- How well the project design adapted to changing situation?

### **2. Effectiveness:**

- How well the project is achieved its planned purpose and results?
- Are the targets for the project appropriate?
- What is the quality of the achieved results?
- Are the risks and assumptions holding true? Are risk management arrangements in place?

### **3. Efficiency:**

- How well are inputs/resources being managed and used in the best possible way?
- Are inputs provided/ available on time to implement activities?
- To what degree are inputs provided/ available at planned cost (or lower than planned)?
- Are project resources managed in a transparent and accountable manner?
- How well is the implementation of activities managed?
- To what extent are activities implemented as scheduled? Are there are delays and why
- Are funds committed and spent in line with the implementation timescale?
- Have all partners been able to provide their financial and/or other contributions?

### **4. Sustainability:**

- If the services/results have to be supported institutionally, are funds likely to be made available? If so, by whom?

- What is the level of ownership of the project by key partners and will it continue after the end of external support?
- How far the project is embedded in local structures?
- What is the likelihood that key partners will continue to make use of relevant results?
- Are the material, services and equipment support likely to continue after the project has finished?
- Is the project socially and environmentally sustainable

**5. Impact:**

- What are the direct impact prospects of the project at overall objective level?
- What, if any impacts are already apparent?
- Are the targets realistic and are they likely to be met?

## Annex-7: Rating Scales

<p><i>Ratings for Effectiveness, Efficiency, Overall Project Outcome Rating, M&amp;E, IA &amp; EA Execution</i></p> <p>6: Highly Satisfactory (HS): no shortcomings</p> <p>5: Satisfactory (S): minor shortcomings</p> <p>4: Moderately Satisfactory (MS): moderate shortcomings</p> <p>3. Moderately Unsatisfactory (MU): significant shortcomings</p> <p>2. Unsatisfactory (U): major problems</p> <p>1. Highly Unsatisfactory (HU): severe problems</p>	<p><i>Sustainability ratings:</i></p> <p>4. Likely (L): negligible risks to sustainability</p> <p>3. Moderately Likely (ML): moderate risks</p> <p>2. Moderately Unlikely (MU): significant risks</p> <p>1. Unlikely (U): severe risks</p>	<p><i>Relevance ratings</i></p> <p>2. Relevant (R)</p> <p>1. Not relevant (NR)</p>
<p><i>Additional ratings where relevant:</i></p> <p>Not Applicable (N/A)</p> <p>Unable to Assess (U/A)</p>		

## Annex-8

<b>Evaluation Consultant Agreement Form<sup>3</sup></b>	
Agreement to abide by the Code of Conduct for Evaluation in the UN System	
Name of Consultant:	<u>Nisar Ahmad Khan</u>
Name of Consultancy Organization (where relevant):	_____
I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.	
Signed at <i>place</i> <u>Islamabad</u> on <i>date</i> <u>14 December 2016</u>	
Signature:	_____

**Annex G: Evaluation Report Clearance Form**

*(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)*

Evaluation Report Reviewed and Cleared by	
UNDP Country Office	
Name: _____	
Signature: _____	Date: _____
UNDP GEF RTA	
Name: _____	
Signature: _____	Date: _____

**Terminal Evaluation Report of  
Pakistan Sustainable Transport Project (PAKSTRAN)  
UNDP Project ID: 3953, GEF Project ID: 3539**

**Prepared By  
Nisar Ahmad Khan  
Independent Consultant  
niskhan65@gmail.com**

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**Commissioned by  
UNDP Pakistan**