

**REPORT AND RECOMMENDATION
OF THE
PRESIDENT
TO THE
BOARD OF DIRECTORS
ON
PROPOSED LOANS
TO THE
ISLAMIC REPUBLIC OF PAKISTAN
FOR THE
NORTH-WEST FRONTIER PROVINCE ROAD DEVELOPMENT
SECTOR AND SUBREGIONAL CONNECTIVITY PROJECT**

October 2004

CURRENCY EQUIVALENTS

(as of 1 October 2004)

Currency Unit	–	Pakistan rupee/s (PRe/PRs)
PRe1.00	=	\$0.01689
\$1.00	=	PRs58.20

ABBREVIATIONS

ADB	–	Asian Development Bank
CAR	–	Central Asian republic
EIA	–	environmental impact assessment
EIRR	–	economic internal rate of return
FHA	–	Frontier Highway Authority
GDP	–	gross domestic product
HIV/AIDS	–	human immunodeficiency virus/acquired immunodeficiency syndrome
IEE	–	initial environmental examination
km	–	kilometer
JFPR	–	Japan Fund for Poverty Reduction
LIBOR	–	London interbank offered rate
MOC	–	Ministry of Communications
NPG	–	NWFP provincial government
NHA	–	National Highway Authority
NHMP	–	National Highway and Motorway Police
NWFP	–	North-West Frontier Province
OCR	–	ordinary capital resources
PMU	–	Project Management Unit
PSC	–	project steering committee
RAMS	–	road asset management system
TA	–	technical assistance
UNAIDS	–	Joint United Nations Program on HIV/AIDS
WSD	–	Works and Services Department

NOTES

- (i) The fiscal year (FY) of the Government ends on 30 June. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2003 ends on 30 June 2003.
- (ii) In this report, "\$" refers to US dollars.

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CONTENTS

	Page
LOAN AND PROJECT SUMMARY	iii
MAP	vii
I. THE PROPOSAL	1
II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES	1
A. Performance Indicators and Analysis	1
B. Analysis of Key Problems and Opportunities	2
III. THE PROPOSED PROJECT	6
A. Objectives	6
B. Components and Outputs	7
C. Special Features	9
D. Cost Estimates	12
E. Financing Plan	13
F. Implementation Arrangements	14
IV. PROJECT BENEFITS, IMPACTS, AND RISKS	17
A. Economic Analysis	17
B. Social Impacts	17
C. Environmental Impact and Measures	19
D. Project Risks	20
V. ASSURANCES	21
A. Specific Assurances	21
B. Condition for Loan Effectiveness	22
C. Condition for Disbursement	22
VI. RECOMMENDATION	23
APPENDIXES	24
1. Project Framework	24
2. Road Sector Analysis	27
3. External Assistance for the Road Sector	32
4. Provincial and District Policy Matrices and Action Plans	33
5. Selection Criteria and Approval Process for Subprojects	36
6. Implementation of Rural Access Roads	38
7. North-West Frontier Province Road Safety Action Plan	40
8. Detailed Cost Estimate and Financing Plan	42
9. Implementation Arrangements	43
10. Implementation Schedule	46
11. Indicative Contract Packages	48
12. Summary Economic and Distribution Analysis	49
13. Summary Poverty Reduction and Social Strategy	55

SUPPLEMENTARY APPENDIXES (available on request)

- A. Summary of Design Approach and Technical Standards
- B. Draft Japan Fund for Poverty Reduction Project Grant Proposal
- C. Preconstruction Activities Schedule and Action Plan
- D. Terms of Reference for Consulting Services
- E. Poverty and Social Assessment
- F. Summary Resettlement Plan
- G. Summary Resettlement Framework

LOAN AND PROJECT SUMMARY

Borrower	Islamic Republic of Pakistan
Classification	Targeting classification: General intervention Sector: Transport and communications Subsector: Roads and highways Thematic: Economic growth
Environment Assessment	Category A. An environmental impact assessment (EIA) for national highways and an initial environmental examination (IEE) for the other roads were undertaken. A summary EIA containing essential elements of both the EIA and IEE was circulated to the Board 120 days prior to Board consideration of the Project.
Project Description	The Project will improve (i) the provincial road network in the North-West Frontier Province (NWFP) to increase access to the rural population; (ii) build capacity of the road agencies to improve efficiency, sustainability, and safety of the network; and (iii) enhance subregional connectivity by improving national highways connecting the Afghanistan border to the Karachi ports and developing border-crossing infrastructure.
Rationale	<p>NWFP is the poorest of the four provinces with a poverty incidence of 44% compared with 33% for the country. The rural areas of NWFP suffer from lack of connectivity as 27% of communities lack basic motor vehicle access and 68% are not served by public transport. The 9,100 kilometer (km) road network, of which over 4,000 km is unpaved, is in poor condition. The Government's devolution program has transferred about 7,000 km of roads to the newly established district governments, which lack capacity as well as resources to maintain them.</p> <p>The closest ports to landlocked Afghanistan and most of the Central Asian republics (CARs) are the existing ports in Karachi and the under-construction port at Gwadar. The bulk of traffic from northern Afghanistan and the CARs enter Pakistan at the Torkham border point and use the national highways to access the ports. With stability gradually returning in Afghanistan and growing bilateral trade with Pakistan, the opportunities to benefit from this corridor have significantly increased.</p> <p>The Project is part of sequenced interventions in individual provinces by the Asian Development Bank (ADB) for integrated development of the national, provincial, and rural access roads along with related institutional and policy reforms in the subsector. These interventions also support subregional cooperation initiatives by improving international road transport corridors and cross-border facilities.</p>

The Project represents the fourth intervention using this approach and follows the earlier road projects for the provinces of Sindh, Punjab, and Balochistan.

Objectives

The objectives of the Project are to increase access of the rural population in NWFP to social services and markets leading to improved livelihood and poverty reduction, enhance efficiency of the road network and transport in the province, and improve subregional cooperation and trade by facilitating road transport to Afghanistan and the CARs. These objectives will be achieved through (i) provincial policy reforms and institutional strengthening component to improve the management of road subsector and build capacity at provincial and district levels; (ii) provincial roads improvement component involving rehabilitation and improvement of 212 km of provincial highways and about 700 km of rural access roads in districts; (iii) subregional connectivity improvement component involving construction and improvement of about 310 km of national highways and border-crossing infrastructure at two border points with Afghanistan; and (iv) road safety component involving implementation of a road safety program along selected national highway sections improved under the Project, awareness campaigns and capacity building.

To support the sector reform agenda, the Project will help (i) establish a road asset management system, (ii) implement performance-specific maintenance contracts, (iii) involve roadside communities in rural road maintenance on a pilot basis, (iv) improve road safety, (v) control vehicle overloading, and (vi) build the capacity of provincial and district governments in road asset management.

Cost Estimates

The total cost of the Project is \$423.6 million equivalent. The foreign exchange cost is \$243.2 million, and the local currency cost is \$180.4 million equivalent.

Financing Plan

(\$ million)				
Source	Foreign Exchange	Local Currency	Total Cost	Percent
Asian Development Bank	243.2	58.0	301.2	71
Government	0.0	122.4	122.4	29
Total	243.2	180.4	423.6	100

Loan Amount and Terms

A loan of \$296.2 million equivalent from ADB's ordinary capital resources will be provided under ADB's London interbank offered rate (LIBOR)-based lending facility. The loan will have a 25-year term including a grace period of 5 years, an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.75% per annum, and such other terms and conditions set forth in the draft loan and project agreements.

A further loan in various currencies equivalent to Special Drawing Rights 3,404,000 (\$5.0 million equivalent) will be provided to the Islamic Republic of Pakistan for the NWFP Road Development Sector and Subregional Connectivity Project, from ADB's Special Funds resources with an interest charge at the rate of 1% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Project Agreements presented to the Board.

Period of Utilization	Until 31 December 2010
Estimated Project Completion Date	30 June 2010
Executing Agency	NWFP's Works and Services Department (WSD) for (i) provincial policy reform and institutional strengthening, and (ii) provincial roads improvement components National Highway Authority (NHA) for the subregional connectivity improvement component Ministry of Communications (MOC) for the road safety component
Implementation Arrangements	Under WSD, the Frontier Highway Authority (FHA) will be the Implementing Agency for the policy reforms and institutional strengthening component, as well as improvement of provincial highways. Improvement of rural access roads will be undertaken by WSD's Project Management Unit and the District Governments. Project directors in FHA, MOC, NHA, and the Project Management Unit will have overall implementation responsibility. Provincial steering committee, MOC, and NHA will be responsible for monitoring implementation.
Procurement	All civil works contract packages will be procured in accordance with ADB's <i>Guidelines for Procurement</i> following international and local competitive bidding procedures.
Consulting Services	The Project will require international and domestic consulting services for (i) policy and institutional reforms, road asset management capacity building, and project management; (ii) detailed engineering and construction supervision/contract administration for national highways; (iii) design and construction supervision for provincial highways and rural access roads; and (iv) road safety. The consultants will be engaged using ADB's quality- and cost-based selection procedures and according to ADB's <i>Guidelines on the Use of Consultants</i> and other arrangements satisfactory to ADB for engaging domestic consultants.

Project Benefits and Beneficiaries

The Project will have a significant effect on poverty reduction, directly benefiting approximately 1,000,000 people in the 24 districts of NWFP living adjacent to the roads and some 500,000 other road users. Of these, an estimated 900,000 are poor people who will be direct beneficiaries. Other people will benefit from lower transport costs and induced economic and social development. The Project will generate approximately 820,000 person-months of employment opportunities for unskilled laborers. The Project will have positive externalities, which will improve the livelihood of the poor.

Risks and Assumptions

Inordinate delay in project start-up activities, such as engagement of consultants and procurement for civil works, including timely approvals by NHA and NWFP provincial government (NPG), is a potential risk. A detailed plan of preconstruction activities has been prepared in consultation and agreement with NHA and WSD-FHA as part of advance actions.

Inadequate district maintenance is a constant risk that affects project sustainability. The Project addresses this issue by (i) allowing maintenance to be undertaken by the construction contractor for up to 10 years for project-financed roads, (ii) engaging rural communities to undertake routine maintenance, and (iii) building the capacity of district staff in road asset management.

Failure of the Government's devolution program to provide sufficient resources for maintenance will have an adverse impact on provincial infrastructure (including roads) that has been devolved to the districts. However, NPG has given assurance that adequate resources will be provided to maintain the transferred road assets once the districts' capacity is improved.

The risks for failure or slowdown in policy and institutional reforms in NPG are considered manageable, as project consultants will commit and support NPG and WSD in introducing the reform measures and building capacity.

The new cross-border access to Afghanistan is located in an area where security is an issue. While the present conditions indicate an escalated security environment, the Government has given assurance that this is a temporary phase and that the security level will return to normal by the time the project activities commence.



I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on proposed loans to the Islamic Republic of Pakistan for the North-West Frontier Province (NWFP) Road Development Sector and Subregional Connectivity Project. The Project Framework is in Appendix 1.

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

A. Performance Indicators and Analysis

1. Roads

2. Transport is an important sector of Pakistan's economy, accounting for 10% of the gross domestic product (GDP)¹ and 20–25% of the Public Sector Development Program. Roads are the predominant mode of inland transport accounting for more than 91% of passenger traffic and 96% of freight traffic. The total road network in the country is approximately 250,000 kilometers (km). This includes 8,600 km of national highways and motorways and about 95,000 km of provincial roads generally categorized as highways, and secondary and access roads. The remaining are paved municipal urban roads and largely unpaved tertiary roads providing access to villages and remote areas. NWFP is the smallest of the country's four provinces with an area of 74,500 square km and population of 17.7 million.² The provincial road network³ consists of about 9,100 km, of which about 5,000 km are paved. The rural areas of NWFP are still not well-connected⁴ and this particularly affects the poor.

3. To improve service delivery of social and other infrastructure at the grassroots level, the Government embarked upon a major decentralization effort in 2001. As part of the Government's devolution program, the Communication and Works Department of NWFP provincial government (NPG), which was responsible for the provincial road network, transferred responsibility of over 7,000 km of its roads to 24 newly formed district governments along with a major portion of its staff. The provincial Communication and Works Department was then combined with the Public Health Engineering Department to form the Works and Services Department (WSD). The Frontier Highway Authority (FHA) was established in 2001 to look after maintenance and development of the core provincial highway network of about 2,100 km retained by NPG. A road sector analysis is in Appendix 2.

2. Subregional Cooperation and Connectivity

4. As mandated in its charter, ADB gives high priority in its operations to regional cooperation. In South and Central Asia, ADB has been actively involved in two subregional cooperation initiatives: (i) the South Asia Subregional Economic Cooperation,⁵ and (ii) the Subregional Economic Cooperation in South and Central Asia.⁶ For Pakistan,⁷ development of

¹ Government of Pakistan. 2003. *Economic Survey 2002-03*, Statistical Appendix. Islamabad.

² As per the 1998 census.

³ Excluding the federally administered tribal areas.

⁴ World Bank. 2002. *Rural Access and Mobility Study*. Islamabad.

⁵ Involving Bangladesh, Bhutan, India, and Nepal.

⁶ Under a regional technical assistance: ADB. 2003. *Technical Assistance for Subregional Economic Cooperation in South and Central Asia*. Manila. Involved Afghanistan, Pakistan, Tajikistan, Turkmenistan, Uzbekistan, and Iran (as an observer).

⁷ Pakistan is a member of two regional organizations for economic cooperation: the South Asian Association of Regional Cooperation and the Economic Cooperation Organization.

transport corridors⁸ with Afghanistan and the Central Asian republics (CARs) assumes greater significance as these are landlocked countries and the closest ports are the existing ports in Karachi⁹ and the under-construction port in Gwadar. With stability gradually returning and major reconstruction and development taking place in Afghanistan, bilateral trade between Pakistan and Afghanistan is growing quickly, approaching over \$1 billion annually. To promote this trade, two additional border-crossings¹⁰ have been agreed upon: starting with the one near Miran Shah in NWFP, south of the existing Torkham border.¹¹ Similarly, significant progress has been made in the transit trade by reducing the banned items list by half under the Afghanistan Transit Trade Agreement, and providing major concessions for storage of goods at the Karachi port.¹²

5. The north-south national highways (N-5 and N-55)¹³ carry trade and transit traffic for Afghanistan and the CARs, and provide access to ports in the southern city of Karachi. About 350 km shorter, the N-55 is being upgraded in three phases, with two—totaling 786 km (or 65%)—already completed.¹⁴ The third phase, involving two sections in NWFP (146 km), two in Sindh (199 km), and one in Punjab (178 km), need to be completed to fully utilize the benefits of the shortened corridor, reduce vehicle operating costs, and improve road safety.

B. Analysis of Key Problems and Opportunities

1. Provincial Road Network Challenges

6. In line with the Government's devolution program, NPG has taken major steps in restructuring the responsibility of the provincial road network by establishing FHA to manage the core highways, and decentralizing the responsibility of other roads to the districts. However, resource and capacity constraints, more so at the district level, will remain a major cause of deteriorating road conditions and loss of road assets. NPG needs to (i) strengthen provincial and district road institutions and build staff capacity; (ii) improve the condition of the road network; (iii) institute sustainable maintenance of the network through short- and long-term measures including establishment of a road asset management system, user-pays principle to supplement maintenance resources, and dedicated road maintenance fund to provide sustainable financing; (iv) ensure provision of adequate incentive-based resources to the districts for maintenance of transferred road assets; (v) introduce physical and institutional road safety initiatives to reduce traffic accidents due to increased speed on the improved roads; (vi) initiate axle-load controls; (vii) involve communities in road development and maintenance; (viii) introduce environmental and social aspects in road planning and development; and (ix) introduce policies that enable private sector participation.

⁸ The Karachi-Peshawar-Torkham-Kabul-Pule-Khumrie corridor leads to (i) Tajikistan through Kunduz-Shir Khan Bandar, (ii) Uzbekistan through Mazar Sharif-Hairatan, and (iii) Turkmenistan through Shberghan-Andkhoy-Aquina.

⁹ Karachi Port and Port Qasim.

¹⁰ The existing ones are at Torkham in NWFP and Chaman in Balochistan.

¹¹ Current traffic volume at the Torkham border crossing reaches about 5,000 vehicles per day.

¹² Issues relating to transportation security are being addressed under ADB's Regional Transportation Security Initiative, 2004.

¹³ The 1,760 km Karachi-Lahore-Peshawar-Torkham highway N-5 is the primary transport artery of the country and carries 60% of the port traffic and 55% of the intercity traffic. The 1,211 km Hyderabad-D.I.Khan-D.G.Khan-Peshawar highway N-55 is also called Indus Highway.

¹⁴ With assistance from the Japan Bank for International Cooperation.

2. Road Connectivity and Poverty Reduction

7. Providing road access to remote communities significantly improves social indicators. Impact studies (footnote 4) show that by providing motor-vehicle access to communities, the literacy rate goes up by 68%, enrolment in primary schools and immunization increases by 100%, infant mortality decreases by 12%, contraceptive prevalence goes up by 100%, and per capita consumption increases by 10%. Improved connectivity ensures better road transport services that play an important role in providing access to economic opportunities including labor and product markets, helps the poor overcome geographic isolation and social and cultural barriers, and enables the poor to participate in community and wider decision-making. Hence, the improvement of rural roads has a direct impact on poverty reduction.

3. Road Safety

8. Traffic accidents and deaths along national highways in Pakistan at more than 10,000 fatalities per year (averaging over 30 per 10,000 vehicles) and 150,000 injuries are high compared with similar roads in other Asian countries¹⁵, causing economic losses of more than 2% of GDP.¹⁶ To date, road safety initiatives have largely focused on the motorways and national highways. Preliminary information from initiatives taken by the National Highway and Motorway Police (NHMP) shows that enforcement coupled with engineering improvements and vehicle monitoring has contributed significantly to reducing traffic accidents and deaths. NHMP, established in 1997, has successfully installed systems to improve road safety along the motorways (412 km) and national highway N-5 (1,762 km) in phases. The Government recognizes NHMP's successful performance and plans to expand its operations to cover the entire national highway network.

4. Road Maintenance

9. For a network of about 8,600 km of national highways and motorways, the National Highway Authority (NHA) medium-term investment and maintenance plan (2002–2007) provides PRs63.9 billion for road conservation, indicating an increase in maintenance allocations from 38% to 50% of the development budget. The plan involves prioritized highway investment and maintenance for economically viable projects, and improving the balance between network development and conservation. NHA's road maintenance fund, established in 2000, is financed through toll revenues to ensure a stable and secure source of operation and maintenance funding. Annual revenues collected in 2003 were over PRs3.6 billion. As toll revenues are increasing every year, NHA has sufficient resources to maintain the network.

10. FHA receives an average of PRs730 million annually for development of the 2,100 km network of provincial highways it manages. This is supplemented by about PRs130 million for maintenance that FHA generates mainly from tolls.¹⁷ These resources are adequate for maintaining and gradually improving the network.

¹⁵ ADB. 1992. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Islamic Republic of Pakistan for the Provincial Highways Project*. Manila. A survey under this project in 1998, along 1,200 km of national highways in NWFP counted over 450 fatal accidents per year, amounting to 0.36 accidents per year per km. About 65 black spots, with more than 3 accidents per year, were registered.

¹⁶ ADB estimates, 2004.

¹⁷ Other major revenue sources include earnings from equipment rental, material testing, right-of-way rental charges, fees from roadside gas stations, and contractor's registration.

11. The resources for the 24 districts with a network of about 7,000 km were curtailed from PRs123 million to PRs30 million in 2002–2003. A significant proportion of the network is in poor condition primarily due to a shortage of road maintenance funds, but also due to lack of adequate capacity of the district road agencies. Based on road condition information provided by FHA and district governments, the backlog of maintenance needs is approximately PRs2.5 billion; about PRs138 million are needed annually to sustain the network.¹⁸ Discussions with NPG indicate that they are willing to provide the required resources if the districts develop the capacity to utilize the funds properly. Hence, the districts' capacity needs to be developed; this will lead to better governance and enhanced sustainability of the road network.

5. Cross-Border Facilities and Transit Facilitation

12. The barriers to international and transit trade include cumbersome border-crossing, complicated custom procedures, unnecessary documentation requirements, and poor infrastructure facilities. The joint declaration signed at the end of the First Ministerial Conference on Transport and Trade in Central and South Asia¹⁹ in August 2003 and the subsequent Working Group meeting in March 2004 recognized the need for border-crossing modernization. This includes improving truck-parking facilities, cargo inspection sheds, weighbridges, and communication and power facilities. Also recommended were full-time trained customs, immigration, phyto-sanitary, veterinary staff, and archivists; and facilities for electronic connectivity, and precollection of custom duties. ADB is providing technical assistance (TA)²⁰ to develop a concept, prepare plans, and complete a package including outline design and specifications for a pilot cross-border facility to be established and operated at Chaman border point. The findings of this TA, experience of the pilot facility, and efforts under the Subregional Economic Cooperation in South and Central Asia²¹ will be used to develop the two-border crossings under the Project.

6. Government Strategy

13. The Government strategy for the transport sector involves (i) providing linkages between the nation's major production centers, its seaports, and railways to all parts of the country and gateways in neighboring countries using infrastructure that is safe and in good condition; (ii) providing the rural population access to market, health, social welfare, and education centers; and (iii) supporting involvement of Pakistan into a regional transportation hub connecting landlocked areas of neighboring countries to Pakistan's seaports and the global market. This is reflected in the current Public Sector Development Program that focuses on consolidating the network, improving road conditions to lower transport costs, connecting border points with the ports in the south to enhance regional cooperation and international and transit trade, and improving the country's exports. At the provincial level, the Government's priorities focus on improving the core provincial highway network linking the districts as well as providing access to unserved and remote areas by improving the rural access network within the districts. To overcome weak district capacity, the Government supports strengthening the capacity of the

¹⁸ An independent assessment was carried out under the project preparatory technical assistance based on a detailed condition/roughness survey of roads in Nowshera district.

¹⁹ Held at Manila during 31 July–1 August 2003 and with participation of Afghanistan, Pakistan, Tajikistan, and Uzbekistan, with Iran as observer.

²⁰ The TA grant of \$500,000 for Cross-Border Facility and Efficient Transit Facilitation was approved under ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Islamic Republic of Pakistan for the Balochistan Road Development Sector Project*. Manila.

²¹ Under Subregional Economic Cooperation in South and Central Asia (footnote 6) upgrading of cross-border facilities in Afghanistan and neighboring countries are being assessed.

district governments to manage their road networks. The new local government system also offers opportunities to address district road network management and cost recovery issues.

7. ADB's Country Strategy and Support for the National Transport Policy

14. ADB's Country Strategy and Program Update 2004–2006 focuses, among others, on (i) province-specific interventions in transport and other sectors, (ii) promotion of subregional cooperation with Afghanistan and the CARs, and (iii) governance improvements including support for the devolution program.

15. The Government has requested ADB's assistance in formulating its transport policy. Initial assistance was provided in Nov-Dec 2003 for an assessment of the current transport sector needs, review of the previous work on policy preparation, and recommendations and guidelines for developing a national policy using a consultative process involving all stakeholders.²² This is being followed up with an advisory TA to support and finalize the transport policy preparation working with a senior transport council and a working-level transport coordination committee representing stakeholders. This effort will continue in parallel and will complement the proposed Government study, assisted by Japan International Cooperation Agency, for development of a national transport plan.

8. External Assistance

16. Pakistan has cumulatively received about \$2.4 billion in external assistance for the road subsector (Appendix 3). Of this, ADB has provided \$1.1 billion for nine projects during 1986–2003, the World Bank \$697 million for seven projects during 1964–2003, and Japan Bank for International Cooperation \$570 million for six projects during 1989–2001. The majority of assistance from the World Bank has focused on the major north-south transport artery (N-5) carrying over 55% of the country's intercity traffic. Japan Bank for International Cooperation's assistance has been focusing on the N-55 (Indus Highway), including a major tunnel, to provide an alternate north-south route west of the River Indus (footnote 13).

17. ADB's assistance in the road subsector in Pakistan started in 1986 with farm-to-market road projects that were later expanded to include provision of access to remote rural areas. Since 2001, ADB has initiated sequenced interventions in individual provinces to improve the national and provincial road networks along with the related institutional and policy reforms. These interventions also support the subregional cooperation initiatives through improved international road transport corridors and cross-border facilities.

9. Lessons Learned

18. During 1986–1996, ADB targeted development of the provincial road networks with four umbrella-type projects that included components in each of the country's four provinces. These projects aimed to improve the mobility of the rural community and their access to health, education, and social amenities; provide reliable road access to markets; and support agricultural rural development. The wide geographic dispersion of projects and large number of government agencies was not conducive to timely implementation and pursuing the sector reform agenda with the provincial governments. Accordingly, implementation suffered from

²² Ministries of finance, communications (highways and shipping), railways, defense (civil aviation), local government, and planning commission, and representatives of provincial road agencies.

fragmented efforts, coordination problems, and lack of ownership and commitment by the provincial road agencies that own the bulk of the road network.

19. Addressing the identified weaknesses of earlier projects, ADB adopted a province-focused approach integrating development of national, provincial, and rural roads within the province. During 2001–2003, three provincial road sector projects were approved for Sindh, Punjab, and Balochistan provinces.²³ Extensive national and provincial policy discussions were held to identify subsector issues and develop a comprehensive policy reform agenda. In view of the initiatives already started by NHA, ADB agreed to include a program loan with the Sindh Project to support completion of the national road policy reforms. The national policy matrix provided the overarching framework for development of provincial road policy reforms, as key elements of the reforms were equally applicable to the provinces. The policy discussions with the provinces focused on these key elements and led to adoption of a program approach that involved sequenced interventions in each of the four provinces to achieve the subsector policy reform.

20. The ongoing province-focused road projects in Balochistan, Punjab, and Sindh are experiencing some initial start-up delays in recruitment of consultants and civil work procurement that has adversely affected implementation progress. The main causes of these delays are (i) frequent changes in key project staff, and (ii) lack of preparation and provision of adequate resources to implement advance procurement actions. In addition, absence of established procedures for procurement decisions result in multiple levels of clearances by the provincial governments causing significant delays. All international procurement was managed by the federal coordinating agencies in implementing earlier umbrella projects. Hence the provinces lack experience in engaging international consultants and procuring civil works under international competitive bidding procedures. The Project addresses these concerns by (i) preparing a preconstruction activities action plan including a detailed schedule in consultation with the executing agencies, (ii) seeking the executing agencies' assurance for assigning experienced staff and providing adequate resources to initiate the activities in the preconstruction activities action plan, (iii) seeking Government/NPG assurances not to transfer the project staff for 3 years, or at least until civil works contracts are awarded, and (iv) seeking the executing agencies assurance to engage local consultants to help them implement the preconstruction activities action plan at least until project consultants are engaged.

III. THE PROPOSED PROJECT

A. Objectives

21. The Project is part of ADB's sequenced interventions in individual provinces to improve the national and provincial road networks along with related institutional and policy reforms. The Project's objectives are to increase access of the rural population in NWFP to social services and markets leading to improved livelihoods and poverty reduction, enhance efficiency of the road network and transport in the province, and improve subregional cooperation and trade by facilitating road transport to Afghanistan and the CARs. These objectives will be achieved

²³ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Islamic Republic of Pakistan for the Road Development Sector Program*. Manila that included (i) National Policy Reform Program Component, and (ii) Provincial (Sindh) Sector Development Project Component. Manila. ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Islamic Republic of Pakistan for the Punjab Road Development Sector Project*. Manila; ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Islamic Republic of Pakistan for the Balochistan Road Development Sector Project*. Manila.

through (i) policy reforms and strengthening provincial road sub-sector institutions, (ii) improvement of provincial and district roads, (iii) enhancement of subregional connectivity by improving national highways connecting the Afghanistan border to the Karachi ports and developing border-crossing infrastructure, (iv) improving road safety and (v) community development and poverty reduction by enhancing road improvement benefits to the poor roadside communities. The Project is in accordance with the strategy outlined in the Country Strategy and Program Update (2004–2006), which focuses, among others, on province-specific interventions in transport and other sectors, promotion of subregional cooperation with Afghanistan and the CARs, and governance improvements including support for the Government's devolution program. The Project is in line with ADB's Regional Cooperation Strategy and Program, and also supports the Government's transport strategy.

B. Components and Outputs

22. The Project will finance (i) provincial policy reforms and institutional strengthening component to improve the management of road subsector and build capacity at provincial and district levels; (ii) provincial roads improvement component involving rehabilitation and improvement of 212 km of provincial highways and about 700 km of rural access roads in districts; (iii) subregional connectivity improvement component involving construction and improvement of about 310 km of national highways and border-crossing infrastructure at two border points with Afghanistan; and (iv) road safety component involving implementation of a road safety program along selected national highway sections improved under the Project, awareness campaigns and capacity building.

1. Provincial Policy Reforms and Institutional Strengthening Component

23. The Project will assist FHA and district governments to (i) achieve efficiency in service delivery through institutional strengthening and capacity building, (ii) improve sustainability of the network through road asset management involving planned maintenance and enforced axle-load controls, (iii) supplement provincial resources through the user-pay principle and establishment of a dedicated road maintenance fund, (iv) involve communities in road maintenance, (v) improve road safety, (vi) enhance private sector involvement in financing and constructing roads, and (vii) incorporate environmental and social aspects into planning road infrastructure developments. The proposed policy matrix and action plan for FHA and district road agencies is in Appendix 4.

24. Extensive policy discussions were held with NPG regarding institutional and sector reforms under the Project. These reforms are based on the national framework and represents issues specific to the province. In view of the organizational changes that have taken place in managing the road subsector in NWFP, the policy reforms are structured separately for the provincial road agency (FHA) and the district road agencies. To support the road reform agenda, the Project will finance (i) consulting services, (ii) establishment of a modern road asset management system (RAMS) in FHA and a simpler RAMS in selected districts, (iii) implementation of performance-specific maintenance contracts on selected FHA roads, (iv) a pilot effort to involve roadside communities in undertaking routine maintenance of rural roads, (v) an axle-load control program, (vi) assistance to promote private sector participation in road construction and maintenance, (vii) establishment of road safety, environment, and social assessment cell in FHA, and (viii) capacity building of FHA and district road agencies.

2. Provincial Roads Improvement Component

25. **Provincial Highways.** The Project will finance rehabilitation and reconstruction of five priority provincial highway sections totaling 212 km. The design standards are in Supplementary Appendix A.

26. **Rural Access Roads.** The Project will finance rehabilitation and reconstruction of about 700 km of rural access roads. As with the earlier provincial road projects in other provinces, a sector approach will be followed for rehabilitation and reconstruction of rural access roads.²⁴ NPG has identified five core roads that meet the agreed selection criteria (Appendix 5), totaling about 100 km and representing the typical geophysical, environmental, and social conditions in the province. Subprojects for core roads were prepared under the project preparatory TA. Subproject preparation involves a feasibility study; environmental, social, and resettlement assessments; detailed engineering; and preparation of bidding documents. The design approach and technical standards are in Supplementary Appendix A.

27. The remaining about 600 km of roads will be selected during implementation based on the selection criteria that involve poverty targeting, technical and economic feasibility, social assessment, resettlement, consideration for indigenous people, environmental considerations, stakeholder consultation, and availability of counterpart resources. The roads will preferably be selected from the 2,745 km initially proposed by the districts. Details on allocation of roads to the districts, selection procedure, endorsement of project financing, involvement of district representatives, eligibility criteria for districts, implementation procedures, and flow of funds are outlined in Appendix 6.

3. Subregional Connectivity Improvement Component

28. **National Highways.** The Project will finance rehabilitation and construction of about 310 km of national highways that are part of the subregional transport corridor providing access for Afghanistan and the CARs to the Karachi ports. This includes (i) a 192 km section of two national highways (N-5 and N-55) that connect the Torkham border crossing with the Karachi ports, and (ii) a third cross-border access to Afghanistan involving improvement of 118 km of road that connects the border town of Ghulam Khan to national highway N-55 at Sarai Gambila.

29. Except for the 46 km Peshawar-Torkham road, the other three national highway sections will be improved to the technical standards outlined in Supplementary Appendix A. Traffic on the Peshawar-Torkham section of national highway N-5, which provides access to Afghanistan and the CARs, is high and projected to increase as a result of improving bilateral trade between the two countries and international transit trade from the CARs. However, improvements to this road are constrained by heavily populated settlements on either side, railway lines running adjacent to the road, steep gradients, and sharp curves that are difficult large commercial vehicles to negotiate. Accordingly, this road will be constructed on a new alignment that allows enhanced capacity through four lanes and improved road geometry.

30. **Cross-Border Facilities.** The Project will finance (i) improvement of infrastructure and facilities at the Torkham border crossing, (ii) construction of a new cross-border facility at the Ghulam Khan border point with Afghanistan, and (iii) supply and installation of equipment. The

²⁴ NPG has adopted appropriate policies that prioritize investments for improving the road sector. WSD has been implementing ADB and externally funded projects, and has the capacity to prepare, appraise, and implement a sector-type project.

facilities include customs infrastructure; cargo inspection sheds; weighbridges; warehousing; parking of vehicles; and immigration, communication, and power facilities. Development of this component will be based on the findings of the ongoing TA for cross-border development (para. 14), which will also include institutional and legislative aspects to improve operations.

4. Road Safety Component

31. The Project will finance equipment and facilities to expand NHMP operations on the N-55 and N-5 highway sections improved under the Project as a pilot safety zone for the province.²⁵ The Project includes consulting services, equipment, and capacity building for (i) coordination and management of road safety efforts, (ii) establishment of road accident data systems, (iii) improved planning and design of roads and conduct of road safety audits, (iv) improvement of hazardous locations, (v) road safety education, (vi) publicity and campaigns, (vii) emergency assistance to road accident victims, and (viii) road safety research. The Project will address policy issues through implementation of the NWFP Road Safety Action Plan (Appendix 7) designed to bring policy and institutional reforms to strengthen road safety efforts in the province consistent with the ongoing initiatives for national highways.

32. The Project also supports a community road safety initiative to mitigate the risk of road crashes and injury to local communities. Road safety issues that could be effectively addressed through road safety campaigns will be identified, developed, implemented, and evaluated to confirm consistency and quality. Local communities will be educated on the risks they face in using the road system and how they can reduce these risks. Local road users, pedestrians, users of public transport, and drivers will be made aware of the rules of the road and the need to drive safely. To improve road safety during construction for the project-financed civil works, the bidding documents will itemize the road safety measures as “paid-items” in the bill of quantity to ensure contractors’ compliance. The supervision consultant will monitor its implementation, and these responsibilities will be reflected in the consultant’s terms of reference.

C. Special Features

1. Road Asset Management and Maintenance

a. Provincial

33. Provincially, the Project will improve the FHA road network, build capacity, establish a road maintenance fund to utilize toll and other resources generated by FHA for maintenance, and build FHA’s image as a center of excellence to sustain capacity building for the districts. To enable FHA to maximize the use of resources available for road maintenance, the Project will provide FHA with TA, training and equipment to fully develop RAMS capability, update the road inventory, and undertake road condition data collection.²⁶ The Project will also rehabilitate and upgrade the existing road research and material testing, and training facilities of FHA.

34. FHA will be encouraged to move toward performance-specific maintenance contracts to streamline its functioning. The Project will finance pilot efforts to initiate performance-specific maintenance contracts on FHA roads. Contract documentation with specifications will be

²⁵ This involves the D.I.Khan-Sarai Gambila-Kohat-Peshawar-Torkham highway for a total length of about 370 km.

²⁶ Some FHA staff acquired skills in the highway design and maintenance model (HDM)-based RAMS under an earlier ADB-financed project.

developed for a 5-year period for selected FHA roads identified during implementation with ADB approval. The contracts will be extended if they prove successful.

35. The Project will provide assistance to establish a dedicated provincial road maintenance fund; review the current sources of road maintenance funds; and identify (i) opportunities for cost reduction and/or more efficient use of existing resources, and (ii) new sources of revenue including additional user charges. The medium-term road maintenance needs and funding sources will be assessed, and a funding mechanism designed. This may include a maintenance fee or similar other fee for all heavy vehicles passing strategic points on NWFP's road network. NWFP's relatively simple road network makes a pay-as-you-go scheme feasible and would enable trucks to be charged based on weight, axle configuration, and distance traveled.

b. District

36. The Project aims to (i) promote sustainability of the road assets improved under the Project; (ii) build capacity of district staff, establish good practices to enhance NPG's confidence, and promote efficiency and effectiveness of districts; and (iii) supplement district capacity, particularly in remote areas. This is translated into (i) allowing maintenance of project-financed rural access roads by the construction contractor for up to 10 years, (ii) building capacity of district staff in road asset management, and (iii) engaging rural communities to undertake routine maintenance of remotely located roads.

37. Districts governments need additional resources to overcome the resource gap for road maintenance. An initial PRs500 million is needed during the first 5 years for backlog maintenance of the paved district road network, followed by about PRs250 million annually. Based on the historical annual allocation for NWFP roads, this is not an unusual figure as PRs296 million were provided in 1995/96. NPG realizes the need and is willing to provide these resources to the districts once the district governments acquire sufficient capacity to utilize it properly. Project financing of rural access roads in districts is closely linked to the districts' performance in implementing their road maintenance program (Appendix 6).

38. Establishing sophisticated district RAMS may not be feasible given current resources. A simple approach based on the regular collection and comparison of road condition data would nevertheless provide valuable information to support the rational allocation of scarce funds. The Project will finance a pilot effort to collect and present road condition data in selected districts in a form that would enable rational decision making by nontechnical district officials. The data collection expertise established in FHA will be made available for the pilot activity. To ensure improvement of rural access roads financed under the Project, the civil work contracts will have the option to enable the contractor to maintain the road for 5–10 years.

39. One way of addressing the need for increased maintenance of rural access roads is to involve the communities in maintaining the roads that serve their villages. Community involvement in the provision and upkeep of rural infrastructure is common in Pakistan,²⁷ but community road construction and maintenance has been limited to gravel roads. Convincing communities to assume the responsibility of routine road maintenance of more substantial roads may be a challenge. However, if incentives are provided for the community and the proposed scheme is seen to be fair, this initiative could significantly supplement the capacity of the

²⁷ Under a number of projects, the Sarhad Rural Support Programme is helping provide a range of community infrastructure, including roads linking villages to the existing road network with full participation and stake by rural communities. Several of the project roads were initially constructed as a community initiative.

districts to maintain their networks. The Project will provide assistance to WSD and district governments to identify suitable roads, preferably remotely located, where this initiative can be taken up under the Project. This will involve community mobilization and training in road maintenance principles by project-assisted non-government organizations. This approach complements other efforts being piloted under the Project, and will contribute to sustainable maintenance of the district road network.

2. Capacity Building of Road Agencies

a. Provincial

40. Though technically sound, FHA staff lack capacity in areas of environmental evaluation, resettlement and social impacts, road safety, axle-load control, and promotion of private sector participation. In addition, the existing road research and material testing facility needs to be revived to help develop appropriate design and improve quality control of road development projects. To address these constraints, the Project will help FHA to (i) establish a road safety environment and social assessment cell; (ii) initiate an axle-load control program; (iii) revive the road research and material testing facility; and (iv) based upon the findings of the ongoing TA (Appendix 2), initiate a program to promote private sector investments in road development and maintenance. To ensure the proposed initiatives achieve the intended purpose, a program to build the capacity of FHA staff will be developed and implemented under the Project. With initial assistance from the consultants, FHA capacity will be enhanced to improve its performance and enable it to become a center of excellence for the province, providing advice and training to the districts' road staff. In this context, FHA's existing training facility will be rehabilitated and upgraded to impart and sustain training to the district government staff.

b. District

41. The newly established district governments have capacity constraints. As the roles and responsibilities vis-à-vis NPG are still evolving, assessment of capacity-building needs will be undertaken during implementation. The relatively small size of the district road agencies restricts their capacity to provide all the functions required. However, this also offers an opportunity to outsource several functions to the private sector, following FHA's example. A number of capacity-building initiatives in governance and social sectors are already ongoing, sponsored by ADB and other development agencies. Therefore, capacity building under the Project will focus on road construction and maintenance. The force-account labor for road maintenance is being phased out in the districts and an increasing proportion of maintenance works are being contracted out. As a result, the role of the district road agencies will change from construction and maintenance to planning, management, and contract administration. Accordingly, the Project will include capacity building in the areas of contract management, road asset management, environmental and social aspects, and performance monitoring.

3. Enhancing Road Improvement Benefits to Poor Communities

42. The poor in NWFP face particularly high barriers to taking advantage of the Project's road development. These barriers include low levels of literacy and education, poor health profiles, lack of access to safe water and sanitation, trade development skills, and marketing of their produce. The lack of rural mobility and connectivity has been shown to have a strong positive correlation with improved socioeconomic indicators for rural communities. Women face severe social and cultural restrictions on their mobility combined with a low skill base; the benefits of improved roads are less likely to make much impact on women's poverty. Social

surveys show that the net benefits of road development are expected to accrue to the poor only if intra-village accessibility and connectivity to the main roads are improved within the project area. To enhance the ability of the poor and the very poor to benefit from road development, an additional complementary mechanism (proposed to be financed under a \$1.0 million grant from the Japan Fund for Poverty Reduction [JFPR]) is designed to lower these barriers. The proposed JFPR-assisted project²⁸ will target the barriers specifically preventing the very poor and poor from utilizing the road to raise themselves out of poverty. This project builds on the skills and experience of existing non-government and community-based organizations, and includes the provision of information and linkages to existing poverty reduction programs. The draft JFPR proposal is in Supplementary Appendix B. The preparation of the JFPR project will continue in parallel with the Project.

D. Cost Estimates

43. The total cost of the Project is estimated at \$423.6 million equivalent inclusive of civil works, consulting services, equipment, incremental costs, land acquisition resettlement, taxes, duties, interest, and other charges (Table 1). The foreign exchange cost is estimated as \$243.2 million (57.4%). The local currency cost (including taxes and duties) is estimated as \$180.4 million equivalent (42.6%). A detailed cost estimate is in Appendix 8.

Table 1: Cost Estimate^a
(\$ million)

Item	Foreign Exchange	Local Currency	Total Cost
1. Provincial Policy Reform and Institutional Strengthening Component	2.6	2.4	5.0
2. Provincial Roads Improvement Component			
a. Land Acquisition and Resettlement	0.0	1.4	1.4
b. Civil Works			
i. Provincial Highways	39.6	26.4	66.0
ii. Rural Access Roads	51.6	34.4	86.0
c. Consulting Services	1.8	7.3	9.1
3. Subregional Connectivity Improvement Component			
a. Land Acquisition and Resettlement	0.0	16.7	16.7
b. Civil Works			
i. National Highways	104.4	69.6	174.0
ii. Border-crossing Infrastructure	1.8	1.2	3.0
c. Equipment	0.5	0.0	0.5
d. Consulting Services	2.5	4.5	7.0
e. Environment Mitigation and Management	0.0	1.3	1.3
4. Road Safety	4.0	2.8	6.8
5. Incremental Costs	0.0	3.9	3.9
6. Contingencies ^b	19.7	8.4	28.1
7. Interest during Construction	14.8	0.0	14.8
Total	243.2	180.4	423.6

^a In 2004 prices.

^b Physical at 4% of base cost, excluding rural access roads; price at 1.1% annually for foreign exchange and 4% annually for local currency costs.

Source: Asian Development Bank estimates

²⁸ Scheduled for submission for approval of the Government of Japan prior to 15 November 2004.

E. Financing Plan

44. The Government has requested a loan of \$296.2 million equivalent from ADB's ordinary capital resources (OCR) to help finance the Project. The loan will have a 25-year term, including a grace period of 5 years, an interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.75% per annum, and such other terms and conditions set forth in the draft loan and project agreements. The Government also requested a loan of \$5.0 million from ADB's Special Funds resources (SFR) to finance the Provincial Policy Reform and Institutional Strengthening Component. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan and project agreements. The Government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility and ADB's Special Funds resources on the basis of these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

45. The Government will make the loan proceeds available to NPG (\$154.6 million OCR and \$5.0 million Special Funds resources), NHA (\$136.6 million OCR) and Ministry of Communications (MOC) (\$5.0 million OCR) for the purposes of the Project in accordance with the existing policies and practices of the Government on favorable terms and conditions. A detailed financing plan is in Appendix 8 and a summary in Table 2.

Table 2: Financing Plan
(\$ million)

Source	Foreign Exchange	Local Currency	Total Cost	Percent
Asian Development Bank	243.2	58.0	301.2	71
Government ^a	0.0	122.4	122.4	29
Total	243.2	180.4	423.6	100

^a Includes taxes and duties.

Source: Asian Development Bank estimates.

46. In line with ADB's policy to provide a higher financing percentage for projects that address priority poverty concerns in economically less-developed regions, the loan will finance 80% of the civil works for the provincial road improvement component. For civil works under the subregional connectivity component, loan financing remains at 60%. Thus ADB will be financing 71% of the overall Project. The counterpart-funding requirement for NPG is for \$31.8 million, for NHA \$88.8 million and for MOC \$1.8 million.

47. About 19% of the loan will be used for local currency cost financing. The overall economic growth rate in Pakistan has accelerated and is expected to be about 6% of GDP for FY2003/04. Due to recent revenue gains and expenditure restraints, the fiscal deficit is expected to decrease to about 4% of GDP for FY2003/04, its lowest level in the past decade. While this economic performance is commendable, Pakistan needs to consolidate its economic gains by undertaking second-generation reforms. Given its large development financing needs, relatively low ratios of domestic savings and investment to GDP, manifested by the presence of a saving-investment gap, Pakistan will continue to need external assistance to supplement its development activities. Given the rather limited revenue base of NWFP, local cost financing is necessary. On completion, the Project will generate a revenue stream strengthening the provincial fiscal profile.

F. Implementation Arrangements

1. Project Management

48. WSD will be the Executing Agency for the two provincial components. (i), and (ii). Under WSD, FHA will be the Implementing Agency for the provincial policy reforms and institutional strengthening component, and the provincial highway subcomponent under the provincial road improvement component. The rural access roads subcomponent will be undertaken by WSD's Project Management Unit, which was responsible for implementing earlier ADB-financed road projects in the province and the district governments (Appendix 9). WSD has already appointed a project director. FHA needs to appoint one to coordinate and manage implementation of provincial highways subcomponent. The Local Government Department will help WSD coordinate capacity building of the district road entities.

49. NPG will establish a project steering committee, chaired by the additional chief secretary (planning and development), to provide overall guidance and approvals required for smooth and timely implementation of the Project at the provincial level. The project steering committee will comprise the WSD secretary; FHA managing director; representatives of finance, planning, local government departments, and district governments; and the project directors. They will meet at least quarterly to review implementation, provide necessary approvals, and resolve coordination issues. The project steering committee will be responsible for approving subproject proposals for rural access roads. The FHA project director will serve as the secretary.

50. NHA will be the Executing Agency for the subregional connectivity improvement component (Appendix 9). The existing Task Force on Trade and Facilitation²⁹ under the Ministry of Commerce will provide guidance for planning improvements and operations of the cross-border facilities. NHA will appoint a project director to coordinate and manage implementation of the physical infrastructure.

51. MOC will be the Executing Agency for the road safety component (Appendix 9). MOC will appoint a project director to coordinate with NHMP for implementing the pilot road safety zone subcomponent. MOC will also coordinate with FHA, NHA, and WSD for capacity building in road safety and help them comply with the provincial road safety policy matrix and action plan.

2. Implementation Period

52. The Project will be implemented over 6 years, including preconstruction activities. It is scheduled for completion by December 2010. The first phase of contract packages for national and provincial highways and core rural access roads will be awarded by the middle of 2005, the second phase by the end of 2005, and the third phase consisting of only rural access roads by the end of 2006. A detailed implementation schedule is in Appendix 10.

3. Advance Action

53. ADB has approved advance action for commencing engagement of consultants and procurement of civil works. This will allow the executing agencies to initiate procurement actions

²⁹ Chaired by the joint secretary (trade), MOC, the task force includes members from the ministries of commerce, communication, and interior; NHA; National Logistic Cell; Central Board of Revenue; and other public agencies; and representatives of the private sector.

at an early stage. A detailed schedule outlining all preconstruction activities is in Supplementary Appendix C. The schedule is supported by an action plan with target dates to guide the executing agencies in sequencing the activities and monitoring progress. The executing agencies have initiated advance actions for engaging consultants and civil works procurement.

4. Procurement

54. Goods and related services and civil works will be procured in accordance with ADB's *Guidelines for Procurement*. All contracts for civil works and supply of equipment will be divided into suitable contract packages (Appendix 11). The civil works contracts with an estimated value exceeding \$3 million will be awarded following international competitive bidding procedures. Civil work contracts valued at \$3 million or less will follow local competitive bidding procedures acceptable to ADB. For equipment contracts in excess of \$500,000, international competitive bidding procedures will be followed; for contracts ranging from \$100,000 to \$500,000, international shopping procedures will be used; and for contracts valued at less than \$100,000 direct purchase procedures will be followed.

5. Consulting Services

55. Consulting services, both international and domestic, will be required to assist the executing agencies implement the Project. FHA will engage an international consultant in association with domestic consultant(s) to assist and provide technical expertise in implementing the policy reform and institutional strengthening component, including capacity building. In addition, the consultant will help FHA and WSD implement the road policy matrix and action plan, and coordinate and manage project implementation. The scope includes support and capacity building in project management; road maintenance; development of a road asset management system; environmental and social aspects of road development; and support services to the Project Management Unit, including preparation of subproject proposals for rural access roads in a format acceptable to ADB, benefit monitoring and evaluation, and road safety. The consultants will also help the executing agencies monitor and verify compliance with resettlement action plans and environment management plans. The estimated inputs are 64 person-months of international and 180 person-months of domestic consulting.

56. Under the provincial road improvement component: (i) FHA will engage an international consulting firm in association with domestic consultant(s) for design and construction supervision of the provincial highways; and (ii) WSD will engage two domestic consulting firms for design and construction supervision of the rural access roads. The estimated staffing inputs are 63 person-months of international and 2,990 person-months of domestic consulting. Under the subregional connectivity improvement component, NHA will engage an international firm in association with domestic consultant(s) for design and construction of the national highways. The estimated inputs are 74 person-months of international and 1,336 person-months of domestic consulting. These consultants will also be responsible for detailed engineering and construction supervision of the cross-border facilities at Torkham and Ghulam Khan. For the road safety component, MOC will engage international consultant (about 12 person-months) in association with domestic consultant (about 67 person-months). For consulting services involving design and contract administration, the Project will provide furnished office facilities, utilities, vehicles, and equipment required by the consultant. For construction supervision, field offices, material-testing laboratories with utilities and vehicles required by supervision staff will be provided through the construction contracts, as appropriate.

57. All consultants financed under the loan will be selected and engaged using ADB's quality and cost-based selection procedures for recruiting firms under full technical proposals and ADB's procedures for recruiting individual consultants in accordance with ADB's *Guidelines on the Use of Consultants*, and other arrangements acceptable to ADB for engaging domestic consultants. Summary terms of reference are in Supplementary Appendix D.

6. Disbursement Arrangements

58. Loan funds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (January 2001), and *Interim Guidelines for Disbursement Operations, LIBOR-Based Loan Product* (July 2002). For civil works, and procurement of equipment and consulting services requiring international competitive bidding, loan funds will be disbursed using direct payment and reimbursement procedures. For civil works using local competitive bidding procedures and executing agencies' incremental expenditures, reimbursement procedures will be through the imprest account. MOC, NHA, and WSD will each operate imprest accounts established in the National Bank of Pakistan. The combined initial advance to the imprest account will not exceed the estimated expenditures for 6 months or 10% of the loan amount, whichever is lower. Based upon assessment of their capacity, FHA and the districts will operate second generation imprest accounts established in the National Bank of Pakistan with an initial advance not to exceed 6 months expenditure and not to exceed WSD's share of imprest funds. WSD will be responsible for monitoring the FHA and districts imprest accounts, including monthly reconciliation of accounts and preparation of withdrawal applications for liquidation/replenishment of accounts. Statement of expenditure procedures will be used for individual payments not exceeding \$100,000.

7. Accounting, Auditing, and Reporting

59. MOC, NHA, and WSD will maintain separate records and accounts adequate to identify the goods and services financed from the loan proceeds, the expenditures incurred for the Project and the subprojects, and use of local funds. These project accounts and related financial statements will be audited annually in accordance with sound auditing standards by the Auditor General or independent private auditors acceptable to ADB. In addition, the audit should include a separate opinion on the use of imprest accounts with the statement of expenditure procedure. The Government will submit to ADB within 9 months after the end of each fiscal year consolidated annual audited reports and related financial statements of the Project. The director general of audits will coordinate all account activities and ensure compliance with ADB's audit and accounting requirements. ADB will review and follow up on these matters as necessary.

60. For transparency and objective and independent assessment, all procurement and disbursement-related activities will be subject to independent performance audits. Loan-financed consulting services engaged through international competitive bidding procedures will conduct the performance audit biannually. ADB will also conduct project procurement audits as part of its regular loan reviews.

8. Project Performance Monitoring and Evaluation

61. MOC, NHA and WSD, with the assistance of the Project Management Unit and policy and institutional development consultant, will each establish a project performance management system by conducting surveys for baseline data of traffic, and socioeconomic and other relevant parameters for the project roads. The system will be developed in compliance with ADB's *Project Performance Management Systems Handbook*. Baseline surveys will be followed by

regular annual surveys. The findings and supporting data will be incorporated in the project completion report. The data on implementation status will help with project monitoring as well as early identification of potential problems. Performance indicators will be based on the project framework to identify attainment of the development objectives.

9. Project Reviews

62. In addition to regular reviews by ADB staff at least annually, the Project will have a detailed midterm review. The review will identify any problems or weaknesses in implementation arrangements, and agree on any changes needed to achieve the Project's objectives. The review will also address any procurement, financing, and scheduling problems. The midterm review will be carried out by the end of the second year of implementation (last quarter of 2006). Two months before the review, the executing agencies (MOC, NHA and WSD) will submit to ADB a detailed status report on project implementation. Terms of reference for the midterm review will be included in the project administration memorandum to be prepared by ADB's inception mission for the Project.

IV. PROJECT BENEFITS, IMPACTS, AND RISKS

A. Economic Analysis

63. The economic analysis was carried out following ADB's *Guidelines for Economic Analysis of Projects* and using the highway development and management (HDM4) software. The principal quantifiable benefits from the Project are savings on vehicle operating costs, including time-savings for existing and generated traffic. The economic analysis of the project roads (Appendix 12) shows that the economic internal rate of return (EIRR) for all project roads exceeds 12%. The EIRR of the national highways ranges from 17% to 33%; the provincial highways from 18% to 29%, and the five core rural access roads from 16% to 30%. The sensitivity analysis indicates that the EIRRs for all evaluated roads are quite robust for a 20% increase in capital cost, 20% decrease in benefits, delays in implementation and 5% reduction in growth rate. Benefits will also arise from improved access to markets, which will boost agricultural economic activities; reduced agricultural input costs because of better transport facilities; improved access to health, education, and other social sector facilities; and increased subregional benefits arising from improved trade facilitation and reduced delays at border crossings. The extent of these impacts has not been quantified in the analysis.

B. Social Impact

1. Poverty and Socioeconomic Impact

64. NWFP is the poorest of the country's four provinces with a poverty incidence of 44% compared with the country's 33%. Much of the poverty reduction impacts have occurred in urban areas, but urban poverty at 31% and rural poverty at 47% remain higher than the national average. Poverty in the project areas is associated with larger household sizes, lack of basic services, asset ownership, and low education and literacy status. A vast majority (51%) of communities living adjacent to the project roads can be classified as poor with an average household size of over 9. Within the project influence area, most people (89%) derive their livelihoods from nonagricultural work, with 49% living in katcha houses and lacking access to safe drinking water and proper sanitation facilities. Villages either have no basic road links to the main roads or the existing roads are in poor condition and mostly inaccessible for transport services. Household survey results reveal that 40% of villagers have to travel 6–10 km to reach

a basic health unit. The literacy levels are low at 37%; and female children have less access to education, health care, and nutrition. The socioeconomic survey of the candidate roads reveals that on average 70% of households in the affected area have a per capita income of less than PRs750 per month—the official poverty level (footnote 1). The summary poverty reduction and social strategy is in Appendix 13. A detailed poverty and social assessment is in Supplementary Appendix E.

2. Poverty Impact Ratio

65. The Project will reduce poverty by lowering the transport costs for the poor traveling to agricultural and labor markets, health and education centers, and other social and public services. According to the poverty assessment, the Project will have a significant effect on poverty reduction, directly benefiting approximately 1,000,000 people in up to 24 districts living adjacent to the roads and some 500,000 other road users. Of these, an estimated 900,000 are poor people who will be direct beneficiaries. Other people will benefit from lower transport costs and induced economic and social development. The estimated poverty impact ratios of the core roads range from 26% to over 100% of the net economic benefits accruing to the poor for the Project as a whole, with most roads between 30% and 50% (Appendix 12). The Project will generate significant employment opportunities for skilled and unskilled labor during its implementation phase. Unskilled laborers (males and females) will be employed directly in road construction and maintenance, and indirectly by providing materials and services for the construction and maintenance activities. The Project will generate approximately 820,000 person-months of unskilled labor employment opportunities. The Project will have positive externalities, which will improve the livelihood of the poor.

3. Gender

66. The prevalent gender role ideologies define women's roles as being primarily within the home as mothers and wives, and men's roles as the breadwinner and decision-maker. The Government's Ministry of Women's Development has been making efforts to support gender through a Gender Policy announced in 2002. The policy aims to support the development and empowerment of women by improving socioeconomic indicators, developing skills, increasing employment opportunities, and supporting microcredit facilities. Despite fairly profound changes in the status of women over the past decades, significant gender gaps in education and health persist. Female literacy is 37% compared with 62% for men,³⁰ and women make up only 28.9% of university students. The low health status of women is the result of women's lower social, economic, and cultural standing. Social and familial control over women, their economic dependence on men, and restrictions on their mobility determine differential access of males and females to health services. The rigid gender roles and restrictions on women's mobility and occupational segregation have resulted in extremely low women's labor force participation rates at 14.4% compared with 70.3% for men (footnote 33). As a result, women's use of the road network is significantly less than men's. The Project will provide benefits to women as a result of reduced road user costs in the form of lower fares and charges as for other users. It will facilitate the empowerment of women through the influence of outside ideas and approaches as connectivity with the rest of the country and regions improves. However, gender issues cannot be addressed in a road project in totality. The complementary JFPR project (para. 42) includes measures that will encourage efforts to raise women out of poverty.

³⁰ Bureau of Statistics. 2003: *Pakistan Labor Force Survey (2001–2002)*. Islamabad.

4. Indigenous Peoples

67. The initial poverty and social assessment indicates that indigenous people or ethnic minorities will not be adversely affected by the Project. Hence, an indigenous peoples development plan is not required. The Project will have a positive impact on the lives of ethnic population groups, who have distinct customs and economic lives, but are well represented at the national and provincial public representation institutions and actively participate in mainstream economic, political, and social life of the province and country.

5. Land Acquisition and Resettlement

68. The Project was designed to minimize the need for land acquisition and involuntary resettlement. A full census was conducted of all the people, land, and structures/assets on the right-of-way for all national and provincial highways and the five core rural access roads. The Project will require acquisition of approximately 466 hectares of land, and will affect 940 households (about 13,590 people). The estimated cost for land acquisition and resettlement is about \$18.1 million, of which \$16.7 million is for the national highways and \$1.4 million for the provincial roads. Accordingly two separate resettlement plans have been prepared for NHA and WSD-FHA. These have been translated into local languages and disclosed to the people affected. A combined resettlement plan summarizing both NHA and provincial resettlement plans is attached as Supplementary Appendix F. The complete resettlement plans will be publicly available at NHA, WSD-FHA, ADB's Pakistan Resident Mission, and on the NHA and ADB websites. A resettlement framework (Supplementary Appendix G) will be applicable for all rural access road subprojects approved during implementation. Resettlement plans for each remaining subprojects will be prepared and approved by NPG, and submitted to ADB for approval.

6. HIV/AIDS³¹

69. According to the World Health Organization and Joint United Nations Program on HIV/AIDS (UNAIDS), Pakistan has a low prevalence but is a high-risk country for the spread of HIV infection. In 1999-2000 the Government with the assistance of UNAIDS and other development partners undertook a strategic planning exercise with input from stakeholders. Under the strategic framework that resulted, the HIV/AIDS Prevention Project uses a multisector response to decrease the vulnerability of Pakistan's population. Included in this project is a 5-year service package for long distance truckers and associated population that includes awareness raising. Under the Project, NHA and WSD will develop linkages with the National AIDS Control Programme, and in particular work with truckers to ensure cooperation and support for the HIV/AIDS Prevention Project along national highways in NWFP. This linkage will not only encourage awareness-raising of HIV/AIDS issues, but will ensure that implementation of the service package for truckers fits in appropriately with road construction timing in NWFP.

C. Environmental Impacts and Measures

70. In accordance with ADB's *Environmental Assessment Guidelines 2003* and Pakistan Environmental Assessment Regulation 2000, the Project as a whole is categorized as "A." More specifically, (i) the rehabilitation and construction of 310 km national highways including the proposed realignment of the Peshawar-Torkham road section is categorized as an A project, and (ii) the improvement and rehabilitation of the provincial highways and rural access roads are

³¹ human immunodeficiency virus/acquired immunodeficiency syndrome.

categorized as a B project. Both the environmental impact assessment (EIA) and initial environmental examination (IEE)³² were prepared in accordance with ADB guidelines. A summary EIA including key elements of both the EIA and IEE was circulated to ADB's Board of Directors and disclosed to the public more than 120 days prior to the Board's consideration of the Project.

71. The findings of EIA and IEE confirm that none of the Project roads are located in or affect any designated protected area, and no environmentally and ecologically sensitive areas are involved under the Project. The environmental impacts associated with the rehabilitation and improvement of the Project roads will occur only during construction. However, these impacts are manageable and appropriate mitigation measures will be incorporated into project design and construction works. If the rural access roads selected during implementation provide access to environmentally sensitive areas leading to potentially negative impacts such as poaching and logging, the IEE proposes that the forest and wildlife departments be part of the monitoring process under the environmental management and monitoring plan. The cost for mitigation and implementation of the environmental management and monitoring plan for the national highways is PRs1,873 million, of which PRs1,798 million is included in the construction costs and a separate allocation of PRs75 million is provided under the Project. For the provincial highways and rural access roads, the cost for mitigation measures and the environmental management and monitoring plan is PRs58 million, of which PRs31 million is provided under construction and consulting services costs and the remaining PRs27 million is covered under the incremental cost.

72. NHA will be responsible for implementing the environmental management and monitoring plan for national highways,³³ FHA for the provincial highways, and WSD for the rural access roads. These agencies will work closely with the federal and provincial environmental protection agencies, other relevant government agencies, and local communities to ensure that the environmental impacts of the Project are mitigated and monitored.

D. Project Risks

73. Inordinate delays in project start-up activities such as engagement of consultants and procurement for civil works including timely approvals by NHA and NPG are a potential risk. In consultation and agreement with NHA and WSD-FHA as part of advance actions, a detailed plan of preconstruction activities has been prepared.

74. Failure of the Government's devolution program to provide sufficient resources for maintenance will have an adverse impact on the provincial infrastructure (including roads) that has been devolved to the districts. NPG has given assurance that adequate resources will be provided to maintain the transferred road assets once the districts' capacity is improved. In addition, the Project addresses this issue by (i) allowing maintenance to be undertaken by the construction contractor for up to 10 years for project-financed roads, (ii) engaging rural communities to undertake routine maintenance, and (iii) building capacity of district staff in road asset management.

³² Two environmental reports are prepared due to different executing agencies for the national highways and provincial roads.

³³ The World Bank is financing long-term development of NHA's environmental capacity through its Highway Rehabilitation Project, approved in November 2003.

75. The risks for failure or slowdown in policy and institutional reforms in NPG are considered manageable, as project consultants will commit and support NPG and WSD in introducing the reform measures and building capacity.

76. The new cross-border access to Afghanistan is located in an area where security is an issue. While the present conditions indicate an escalated security environment, the Government is closely monitoring the situation and has given assurance that this is a temporary phase and that the security level will return to normal by the time the project activities commence.

V. ASSURANCES

A. Specific Assurances

77. In addition to the standard assurances, the Government has given the following assurances, which are incorporated in the legal documents:

78. **Resettlement.** NHA and NPG will implement land acquisition and resettlement activities in accordance with all applicable laws and regulations of the Government and in accordance with ADB's policy on involuntary resettlement as set forth in the agreed resettlement plans (NHA for national highways, and WSD for provincial highways and core rural access roads) and resettlement framework (WSD for noncore rural access roads).

79. **Environment.** NHA and WSD will ensure that all environmental mitigation measures identified in the environmental impact assessment report for the national highway and initial environmental examination report for the provincial highway and rural access roads are incorporated into the project design and implemented during project construction and operation and maintenance, in accordance with the Government's and ADB's environmental guidelines as set forth in *Environmental Assessment Guidelines* (2003) and the environmental management and monitoring plan agreed to with ADB.

80. **Anticorruption.** MOC, NHA and NPG acknowledge that ADB, consistent with its commitment to good governance, accountability, and transparency, reserves the right to undertake directly, or through its agents, investigation of any possible financial or management impropriety in the conduct of the Project. MOC, NHA, NPG, and WSD will fully cooperate with any such investigation and extend all necessary assistance, including access to all relevant books and records, as well as engagement of independent experts who may be needed for satisfactory completion of such investigations. All costs related to such investigations will be borne by the Project.

81. **Labor Laws.** NHA and WSD will ensure that the civil works contractors comply with all applicable labor laws and regulations, and do not employ child labor in the construction activities. NHA and WSD will provide equal opportunities for women in road construction activities, as well as require contractors to not differentiate wages between men and women for work of equal value. A reputable non-government organization may be appointed to independently monitor and report on such matters.

82. **Health Risks and Provisions.** NHA and WSD will ensure that the civil works contracts include a requirement to conduct an information and education campaign on sexually transmitted and other communicable diseases for construction workers as part of the health and safety program at campsites during the construction period. NHA and WSD will ensure that the civil works contracts include provisions on health; accidental death; dismemberment and

disability benefits; safety and security; sanitation; and appropriate working conditions, including accommodation, and safe drinking water for construction workers at campsites at standards acceptable to ADB during the construction period.

83. Illegal Trafficking of Women, Children, and Goods. The Government will ensure that NHA and WSD enact measures, satisfactory to ADB, to prevent, monitor, detect, and arrest illegal trafficking of women and children, and illegal movement of plants, wildlife, contraband, and other prohibited goods.

84. Grievance and Redress Mechanism. NHA and WSD will form within 3 months of the date of loan effectiveness an independent committee comprising individuals unrelated to the Project to hear any grievances or other complaints relating to resettlement or any other issues. The formation of the committee will be announced through the public media, including announcements in all major local language newspapers. The committee will be required to hold a public hearing of any such grievances or complaints filed with it.

85. Institutional Strengthening. Each of NPG and WSD-FHA will undertake a comprehensive capacity-building program including training and advisory services to enhance the managerial, technical, road maintenance, and monitoring capacities of district staff responsible for project implementation and maintenance of district road networks. FHA will also establish a road safety, environment, and social assessment cell to address issues relating to road safety, environmental impacts, and social assessment.

86. Road Maintenance. NHA and NPG will each prepare and implement appropriate road maintenance procedures and annual maintenance plans for the roads improved under the Project. NHA and NPG will each implement axle-load controls on the improved roads. To maintain the network of road assets transferred to the districts, NPG will provide (i) PRs150 million annually to the districts to prevent deterioration of the network, and (ii) PRs500 million annually for 5 years to bring the network to maintainable condition.

87. Project Management. MOC, NHA and WSD will each select project directors on the basis of open competition, and recruit candidates as project directors who demonstrate the highest technical and organizational competence. In the interest of providing continuity for project management, each project director will serve in the position appointed for a minimum of 3 years from the date of appointment. Notwithstanding anything to the contrary, any project director may be removed in case of gross dereliction of duties or such other serious cause, provided such a determination is made through appropriate due process.

B. Conditions for Loan Effectiveness

88. The Government, NHA, and NPG will have approved the Project through approval of the Planning Commission Pro Forma I (PC-I) at the provincial and federal levels.

C. Conditions for Disbursement

89. No loan proceeds will be disbursed for civil work contracts until the supervisory consultants for national highways, provincial highways, and rural access roads, as appropriate, have been engaged.

VI. RECOMMENDATION

90. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve

- (i) the loan of \$296,200,000 to the Islamic Republic of Pakistan for the North-West Frontier Province Road Development Sector and Subregional Connectivity Project from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's LIBOR-based lending facility; a term of 25 years, including a grace period of 5 years; a commitment charge of 0.75% per annum, and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Project Agreements presented to the Board; and
- (ii) the loan in various currencies equivalent to Special Drawing Rights 3,404,000 to the Islamic Republic of Pakistan for the North-West Frontier Province Road Development Sector and Subregional Connectivity Project, from ADB's Special Funds resources, with an interest charge at the rate of 1% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Project Agreements presented to the Board.

Joseph Eichenberger
Vice-President (Operations 2)

18 October 2004

PROJECT FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
Goal From CSP: Increase access of rural population to markets and social services in the province, leading to improved livelihoods. Promote subregional cooperation with Afghanistan and Central Asian Republics (CARs). Improve governance, including support for the devolution program.	Percentage of North-West Frontier Province (NWFP) population living below the poverty line decreased from 44% to 33% Increase in subregional and transit trade with (i) Afghanistan by 20% annually, and (ii) CARs by 5% annually Increase in provision of development fund to district governments by 10% annually	Government's periodic economic statistics and reports Project performance audit report of the Asian Development Bank (ADB)	
Purpose Improve the reach, quality, and sustainability of the transport network in NWFP. Improve transport corridor for landlocked Afghanistan and CARs to provide access to Pakistan ports.	Increased paved road access to rural population from 41% to 60% Increased percentage of rural population served by public transport from 32% to 50% Increased percentage of road network (national, provincial and district) in the province in good condition (international roughness index<5) from 31% to 57% Increased international and transit traffic from Afghanistan and the CARs by 8% annually	Household and socioeconomic surveys Traffic surveys by National Highway Authority/ Frontier Highway Authority (FHA) Project performance management system reports ADB review missions ADB project completion report	Continued government commitment to devolution program, particularly fiscal devolution to district governments Transfer of adequate resources to districts for road maintenance Subregional stability and continued improvement of relations with Afghanistan and the CARs

Continued on next page

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
Outputs Improved provincial road network in NWFP Capable provincial and district road agencies Improved subregional transport corridor Efficient cross-border facility Road safety improved on national highways in the province	212 kilometers (km) of provincial highways improved by 2009 700 km of rural access roads improved by 2010 Over 300 staff of FHA and district governments trained by 2007 Road asset management system established for 2,100 km of the provincial highway network by 2008 Maintenance allocations for district roads increased from \$0.6 million to \$2.6 million annually 310 km of national highways improved by 2009 Cross-border infrastructure improved/developed at two border points by 2009 Traffic accidents and injuries per year decreased by 5% after 2008	Quarterly and monthly implementation progress reports ADB review missions	Sustained government funding for maintenance Works and Services Department/FHA assumes responsibility for developing capacity of district governments
Activities Implement provincial policy reforms and institutional strengthening component Implement provincial roads improvement component (i) Provincial highways (ii) Rural access roads Implement subregional connectivity improvement component (i) National highways	Start: Jan 2005 Complete: Nov 2008 Start: Jan 2005 Complete: Mar 2009 Start: Jan 2005 Complete: Dec 2010 Start: Jan 2005	Quarterly and monthly implementation progress reports ADB review missions Consultant's reports	Sufficient number of qualified personnel will be available for training Project monitoring units at Works and Services Department/FHA and National Highway Authority remain fully staffed

Continued on next page

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
(ii) Cross-border facilities	Complete: Nov 2009		
Roads safety component	Start: Apr 2007 Complete: Nov 2009 Start: Apr 2006 Complete: Oct 2008	Project performance management system reports	
Inputs Project Funding \$423.6 million (ADB \$301.2 million; Borrower \$122.4 million) Civil work contracts: National highways Provincial highways Rural access roads Cross-border facilities Consulting services: National highways Provincial highways and rural access roads Institutional development and capacity building Road safety	 \$174.0 million \$66.0 million \$86.0 million \$3.0 million \$7.0 million \$9.1 million \$2.5 million \$0.6 million	ADB annual financial statements ADB's loan ledger Request for subproject approvals ADB review missions	Timely implementation of advance action plan including engagement of consultants and award of civil work contracts Availability of adequate counterpart resources on time

ROAD SECTOR ANALYSIS

A. Road Network and Administration

1. Roads are the predominant mode of inland transport in Pakistan, carrying more than 91% of passenger traffic and 96% of freight traffic. The average traffic growth rate is about 4.5% for passengers and 10.5% for freight. The total road network in the country is approximately 250,000 kilometers (km), of which about 60% is paved. This percentage includes 8,600 km of national highways and motorways representing the main transport corridors and providing inter-provincial linkages and connections to neighboring countries; and about 95,000 km of provincial roads providing all-weather access to the economic and population centers in the four provinces. The provincial roads are generally categorized as highways, and secondary and access roads. The remaining network consists of mostly paved municipal urban roads, and largely unpaved tertiary roads providing access to villages and remote areas. The number of registered motor vehicles is 4.8 million and is growing at 8% annually. Road transport services are largely in the private sector and are subject to strong competition.

2. With responsibility for operation, maintenance, and development of the national highway system, the National Highway Authority (NHA) is an autonomous agency with a functional structure and decentralized implementation through provincial offices. The provincial communications and works department (CWD) were responsible for the provincial roads, but with the Government's devolution program, the bulk of the provincial network was transferred to the newly established district governments. The rest of the road network consisting of the primary provincial arteries was handed over to the newly formed works and services departments that will manage and develop all public infrastructure projects such as roads and water supply. The local governments in urban centers are responsible for municipal roads, and the district governments for tertiary roads.

B. Road Subsector Revenues and Expenditures

3. Through a combination of general revenue taxes and user charges over 5 years (1995–2000), the road subsector raised PRs207 billion in revenues. National and provincial highway expenditures totaled PRs118 billion for that period. The balance of PRs89 billion (43%) was contributed to the Government's general revenue. In FY2002/03, the economic survey reported expenditure of PRs13.2 billion for the national highway network and PRs7.1 billion for the remaining network. But expenditure on road maintenance was estimated to be only 30% of the requirements. NHA's medium-term investment and maintenance plan (2002–2007) provides PRs127.2 billion for road development and PRs63.9 billion for road conservation. The plan involves prioritized highway investment and maintenance for economically viable projects, and improving the balance between network development and conservation.

C. Road Subsector Issues

4. **Road Infrastructure and Maintenance.** Based on assessments of road conditions, about half of the national highway network and a large proportion of the provincial road networks are in poor condition. Deterioration levels on provincial roads are relatively severe compared with those on national highways. The Government has initiated a program for rehabilitating priority highway sections with assistance from the World Bank and the Asian

Development Bank (ADB) in addition to Government resources.¹ For the provincial highways and district roads, ADB is financing sequenced interventions in each province to rehabilitate and improve road networks. To ensure sustainability, these projects also support policy and institutional reforms and capacity building for the road agencies.

5. NHA receives Government resources that are supplemented by toll revenues. NHA's road maintenance fund, established in 2000, is financed through toll revenues to ensure a stable and secure source of operation and maintenance funding. Annual revenues collected in 2003 were over PRs3.6 billion. As toll revenues increase every year, NHA has sufficient resources to maintain the network. The provincial and district maintenance resources are discussed in paras. 12 and 13.

6. **Vehicle Overloading.** Vehicle overloading is a major cause of premature deterioration of roads in Pakistan. Damage to the pavement caused by overloaded vehicles increases exponentially following the fourth power law. Thus, if axle load is doubled, damage to the pavement will be 16 times. A study by the National Transport Research Center² has shown that over 43% of vehicles exceed the legal axle-load limit mandated by the Road Safety Act of 2000. Two-axle trucks contribute most to overloading, which is increasing at about 2.6% annually. Although the proportion of two-axle trucks now shows a downward trend, they still represent over 50% of the truck traffic on the roads. To prevent damage to the road pavement, overloaded vehicles need to be monitored and axle load control enforced by weigh stations using static and weigh-in-motion measuring devices. NHA is implementing a nationwide axle-load program.³

7. **Road Safety.** Traffic accidents and deaths along national highways in Pakistan – more than 10,000 fatalities per year (averaging more than 30 per 10,000 vehicles) and 150,000 injuries – are high compared with those on similar roads in Asian countries.⁴ The number of traffic accidents and deaths has been growing in recent years with the increase in the number of vehicles on the roads. The improvement of major national highways also contributes to the number of traffic accidents and deaths due to overspeeding, with 50% of these accidents occurring along the national highways. Without road safety initiatives, the accidents are expected to increase. Economic losses are estimated at more than 2% of the national gross domestic product.⁵ There is no centralized data collection and analysis on traffic accidents and deaths at the provincial level in Pakistan.

8. To date, road safety initiatives have been confined to the motorways and national highways. Preliminary information from initiatives taken by the National Highway and Motorway Police (NHMP) shows that enforcement coupled with engineering improvements and vehicle monitoring has significantly reduced traffic accidents and deaths. NHMP has successfully installed systems to improve road safety along the motorways (412 km) and national highway N-5 (1,760 km) in phases. NHMP services along the motorways include ambulances with paramedics, mobile workshops with mechanics, emergency telephones along the road, and briefing to commuters at entry points of motorways. They use modern traffic enforcement and

¹ Rehabilitation of national highway N-5 is financed with World Bank assistance, and N-25 and N-55 with Asian Development Bank's assistance.

² National Transport Research Center. 1994. Axle-Load Survey. Islamabad.

³ The nationwide axle-load program pursued by NHA includes installing 30 weigh bridges at strategic locations on the national highway network.

⁴ ADB. 1992. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Islamic Republic of Pakistan for the Provincial Highways Project*. Manila. A survey under this project in 1998, along 1,200 km of national highways in NWFP, counted over 450 fatal accidents per year, amounting to 0.36 accident per year per km. About 65 black spots, with more than 3 accidents per year, were registered.

⁵ ADB estimates, 2004.

emergency relief equipment such as laser guns, video radar, video cameras, rescue vans, and emergency signboards. Through effective training and proactive organizational reforms, NHMP has been able to achieve a highly motivated and dedicated team of officers at each patrol post, commanded by a chief patrol officer. The officers register violations without actually disturbing traffic as the documents and fines are not collected at the site. The successful performance of NHMP has been recognized and the plan is to expand its operations to cover the entire national highway network.

9. **Private Sector Participation.** A large investment in infrastructure, particularly roads, is needed to maintain and enhance economic growth, which is necessary for reducing poverty and unemployment. The existing resource base is inadequate to meet the road development needs, and investment from the private sector is necessary to fill the resource gap. Although several initiatives, mostly at the national level, were taken to attract private sector investments in the road sector, none were successful primarily because of lack of (i) an enunciated policy on private sector participation, (ii) appropriate institutional structures and processes, (iii) established systems and procedures, and (iv) capable staff. The capacity to promote infrastructure projects is limited. In addition, lack of financial expertise leads to difficulties in packaging projects that could be successfully offered for private sector financing. ADB is providing technical assistance for preparing a public-private infrastructure financing facility⁶ to help design appropriate mechanisms for accelerating infrastructure development by increasing private sector participation in Pakistan.

D. North-West Frontier Province

10. **Road Network and Connectivity.** At 74,500 square km, North-West Frontier Province (NWFP) is the smallest of the four provinces. The landscape features high mountains in the north, strips of plains and plateau in the center, and plains in the south. The population of the province is 17.7 million.⁷ The province's road network⁸ consists of about 9,100 km, of which about 5,000 km are paved (Table A2.1). Lack of connectivity⁹ in the rural areas of NWFP particularly affects the poor. Though the network coverage is better than that in Balochistan and Sindh, only 41% of the rural communities have paved access and 27% still lack basic motor-vehicle access. NWFP lags behind the other provinces in availability of public transport, as only 32% of communities are served by public transport compared with the national average of 48%.

11. **Impact of Devolution.** To improve delivery of social and other infrastructure at the grassroots level, the Government embarked on a major decentralization effort in 2001. As part of the devolution program, CWD of the NWFP government, which was responsible for the provincial road network, transferred responsibility for over 7,000 km to the 24 newly formed district governments along with a major portion of its staff. The provincial CWD was then combined with the public health engineering department to form the Works and Services Department. To look after the maintenance and development of the core provincial highway network of about 2,100 km, the Frontier Highway Authority (FHA) was established in 2001.

12. **Resources for Road Development and Maintenance.** The allocations for road development in NWFP during FY2001/02 to FY2003/04 had a declining trend and varied between 14% and 8% of the total annual development program. The expenditures on road

⁶ ADB. 2003. *Technical Assistance to the Islamic Republic of Pakistan for the Public-Private Infrastructure Financing Facility*. Manila.

⁷ As per the 1998 census.

⁸ Excluding the federally administered tribal areas.

⁹ Based on World Bank. 2002. *Rural Access and Mobility Study*. Islamabad.

maintenance declined significantly from a maximum of PRs296 million in FY1995/96 to PRs32 million in FY1999/2000, against an estimated need of PRs500 million to maintain the network.

13. **FHA** receives an average of PRs730 million annually for development of the 2,100 km¹⁰ network of provincial highways it manages. This is supplemented by about PRs130 million for maintenance that FHA generates mainly from tolls.¹¹ These resources are adequate for maintaining and gradually improving the network. The resources for the 24 districts with a network of about 7,000 km were curtailed from PRs123 million to PRs30 million in 2002–2003. A significant proportion of the network is in poor condition primarily due to a shortage of road maintenance funds,¹² but also due to lack of adequate capacity of the district road agencies. Based on road condition information provided by FHA and district governments, the backlog of maintenance needs is approximately PRs2.5 billion; about PRs138 million is needed annually to sustain the network.¹³ Discussions with NPG indicate that they are willing to provide the required resources if the districts develop the capacity to utilize the funds properly. Hence, the districts' capacity needs to be developed to ensure better governance and enhanced sustainability of the road network.

14. **Institutional Capacity and Constraints.** The new district governments are in a formative stage and lack capacity as well as resources to manage the devolved road network. Though some staff from the former CWD were assigned to the district governments, their work is adversely affected by the lack of institutional mechanisms and operational procedures. Additionally, despite completion of physical devolution of the road assets, fiscal devolution is still in a transition stage. As a result, the district governments rely on federal or provincial governments for financial resources. The current transfer of resources is based on a strict structured formula that requires the majority of funds to be used in the social sectors, leaving very few resources for infrastructure. Thus, a significant proportion of the district road network is in poor condition due to shortage of road maintenance funds and lack of capacity in the district governments.

15. **Road Safety.** Improving road safety is an important issue in NWFP. The situation is exacerbated because of weak institutional capacity, lack of coordination among various agencies, and poor condition of roads. The Project will address policy issues by implementing the provincial policy matrix and action plan designed to bring policy and institutional reforms to strengthen road safety efforts. The action plan will set an overall strategy for improving road safety in the province consistent with ongoing initiatives for the national highways.

16. **Private Sector Participation.** Opportunities for private sector participation in NWFP road infrastructure projects exist as the level of traffic on some corridors is high. Private investors have approached provincial authorities about investing in road development, but lack of policies and of an enabling environment are major impediments. As part of policy reform and the institutional strengthening component, assistance will be provided to overcome barriers to private sector participation in road development in the province. In this context, lessons will be

¹⁰ However, the 480 km Nowshera-Chakdarra-Dir-Shandur road has been upgraded to a national highway and has been taken over by NHA. The FHA network has therefore been reduced to 1,620 km.

¹¹ Other major revenue sources include earnings from equipment rental, material testing, right-of-way rental charges, fees from roadside gas stations, and contractor's registration.

¹² The Nowshera district government said that based on an outdated yardstick (last revised in 1981), they need PRs17.6 million for maintenance of district roads. However, only PRs5 million was provided in FY2002/03 and in FY2003/04 this was drastically reduced to only PRs0.75 million.

¹³ An independent assessment was carried out under the project preparatory technical assistance based on a detailed condition/roughness survey of roads in Nowshera district.

drawn from the experience in Punjab where a build-operate-transfer project for road development is close to completion.

Table A2.1: Road Network of North-West Frontier Province

No.	District	Road Class			Total
		High	Secondary	Access	
1.	Abbottabad	58.00	229.60	134.75	422.35
2.	Bannu	20.00	170.00	116.00	306.00
3.	Battagram	103.46	108.33	72.04	283.83
4.	Buner	87.13	133.25	87.52	307.89
5.	Charsadda	106.50	116.26	162.97	385.73
6.	Chitral	383.50	355.70	75.80	815.00
7.	D.I. Khan	175.50	235.79	142.62	553.91
8.	Dir Upper	38.80	316.50	312.00	667.30
9.	Dir Lower	20.00	54.20	32.50	106.70
10.	Haripur	99.90	210.12	97.33	407.35
11.	Karak		205.05	30.50	235.55
12.	Kohat	101.50	150.10	55.50	307.10
13.	Lakhi Marwat	20.00	80.90	110.10	211.00
14.	Hangu	80.40	122.50	60.10	263.00
15.	Kohistan	27.30	126.63	161.22	315.15
16.	Malakand	37.00	175.34	96.96	309.30
17.	Mansehra	252.74	347.02	57.47	657.23
18.	Mardan	70.99	274.01	9.14	354.13
19.	Nowshera	37.00	170.90	155.73	363.63
20.	Peshawar	49.16	212.90	99.40	361.45
21.	Swabi	98.24	152.13	167.50	417.87
22.	Swat	105.20	80.10	165.50	350.80
23.	Shangla	107.30	93.10	213.40	413.80
24.	Tank	97.20	188.69	24.86	310.75
Total		2,176.81	4,309.10	2,640.90	9,126.82

Source: Asian Development Bank estimates.

Table A2.2: Road Network of North-West Frontier Province

No.	Road Name	Length (km)
1.	Peshawar-Charsadda-Mardan-Swabi-Topi-Khalabat-Haripur	197
2.	Nowshera-Chakdara-Chitral-Mastuj-Shandur	480
3.	Chakdara-Mingora-Khwazakhela-Besham	138
4.	Timergara-Munda-Khar-Nawagai-Ghallani-Pir Qilla-Peshawar	169
5.	Hattar-Haripur-Maqsood-Lora-Ghora Galli-Barian-Nathiagali	139
6.	Swabi-Jehangira-Khairabad-Nizampur-Junction with Road Kohat-Khusal Garh-Shakardara-Chasma-DI Khan	400
7.	Khushalgarh-Kohat-Thall-Parachinar	236
8.	Thall-Mir Ali-Isha-Razmak-Jandola-Khirgi-Tank-DI Khan-Darya Khan	339
Total		2,098

Note: Road has been federalized and taken up by National Highway Authority.

Total Length of Roads in NWFP – 9,127 kms; Total Length of Provincial Highway (FHA) – 2,098 kms; Balance Length Transferred to Districts – 7,029 kms; Paved Districts Roads – 4,920 kms; Unpaved District Roads – 2,109 kms

Source: Asian Development Bank estimates.

EXTERNAL ASSISTANCE FOR THE ROAD SECTOR

Project	Funding Source	Amount (\$ million)	Year
Farm to Market Roads Project	ADB	38.00	1986
Second Farm to Market Roads Project	ADB	113.00	1990
Provincial Highways Project	ADB	165.00	1992
Flood Damage Restoration Project	ADB	78.00	1993
Sukkur Bridge Project	ADB	45.00	1994
Rural Access Roads Project	ADB	123.00	1996
Road Sector Development Program (Sindh)	ADB	200.00	2001
Punjab Road Development Sector Project	ADB	150.00	2002
Balchistan Road Development Sector Project	ADB	185.70	2003
Subtotal		1,097.70	
Indus Highways - Phase I	JBIC	71.00	1989
Indus Highways - Phase II	JBIC	173.00	1991
Rural Roads Construction	JBIC	95.00	1993
Indus Highways - Phase IIB	JBIC	152.00	1993
Kohat Tunnel Construction (I)	JBIC	45.00	1994
Kohat Tunnel Construction (II)	JBIC	34.00	2001
Subtotal		570.00	
First Highway Project	WB	17.00	1964
Third Highway Project	WB	50.00	1980
Fourth Highway Project	WB	152.00	1987
Transport Sector Project	WB	184.00	1991
Karachi Port Modernization	WB	91.40	1992
Trade and Transport Facilitation	WB	3.00	2001
Highway Rehabilitation Project	WB	200.00	2003
Subtotal		697.40	
Total		2,365.10	

ADB = Asian Development Bank, JBIC = Japan Bank for International Cooperation, WB = World Bank.

Source: Asian Development Bank estimates.

PROVINCIAL AND DISTRICT POLICY MATRICES AND ACTION PLANS

Table A4.1: Provincial Policy Matrix and Action Plan

Main Areas of Reform	Objective	Key Issues and Actions Taken	Next Step of Reform and Actions	Compliance Monitoring
Modern Maintenance Practices	Ensure that Frontier Highway Authority (FHA) has systems, procedures, and capacity to carry out effective and efficient road and bridge maintenance management.	The road management unit (RMU), established in 1998 with Asian Development Bank (ADB) assistance, needs to be strengthened with FHA as the focal point for maintenance planning and monitoring. FHA needs equipment, capacity building, and training.	FHA, with the support of the consultants under the provincial institutional strengthening component, will develop a road asset management system (RAMS), maintenance procedures, and manuals. Staff will be trained in procuring and supervising contracts for routine and periodic maintenance, including performance-based maintenance contracts. (by 2006)	Consultant's report FHA will submit to ADB a detailed implementation plan with brief description of the new system and procedures.
Road-User Charges	Ensure that funding of maintenance for long-term preservation of the provincial road network is adequate and sustained.	Finance for road maintenance is inadequate. Tolls on selected bridges now provide some 75% of FHA income. Additional measures are needed to expand toll collection on improved roads.	FHA will, with support of consultants under the institutional strengthening component, analyze maintenance funding requirements and available options for secured and sustained funding for road asset preservation, specifically (i) a new road-user charge to recover costs for maintenance, and (ii) the use of tolls on routes used by heavy through traffic. The preferred schemes for (i) road-user charges, (ii) toll collection, and (iii) maintenance funding mechanism will be implemented from 2005 following consultation with ADB. (by 2008)	Consultant's report FHA will submit the new proposal and implementation plan to ADB for comments.
Axle-Load Control	Reduce overloading of vehicles, especially trucks, and prevent early deterioration of the provincial road network.	Overloading of trucks is a major and common problem in Pakistan. The National Highway Authority is implementing a program for axle-load control for the national highway network.	As part of the Project, weigh stations will be installed for selective provincial highways at strategic locations. Capacity and enforcement of rules will be strengthened through training of FHA and other staff, including the provincial police. Awareness campaigns will be carried out, and FHA will prepare an action plan for improved enforcement of regulations.	FHA will submit an action plan for improved enforcement of regulations. Project progress reports Physical inspection of installed weigh stations

Continued on next page

Main Areas of Reform	Objective	Key Issues and Actions Taken	Next Step of Reform and Actions	Compliance Monitoring
Capacity Building in Environment and Social Assessment	Strengthen FHA's institutional capacity in environment and social assessment of road projects.	FHA lacks capacity and experienced staff in environmental and social assessment. Monitoring of civil works contracts compliance with labor laws needs to be strengthened, specifically with gender inequality and child labor.	The Project will investigate the possibility of using the provincial EPA to supplement its own staff. Assistance to the EPA may be required from the Project to enable it to undertake such a role. (by 2009)	Project progress reporting Project review missions
Private Sector Involvement	increase private sector participation wherever feasible in FHA's road maintenance operations and road rehabilitation program.	The opportunities for private sector participation in road infrastructure projects have been considered to be smaller in NWFP than elsewhere in Pakistan due to the remoteness and relatively low traffic volumes.	FHA will investigate the use of performance specific maintenance contracts, including the possibility of these being supported by toll revenue.	Yearly status report with completed actions to be submitted to ADB
Road-User Associations	Increase involvement and participation of the public and road users in road operations and development.	A few road-user associations are established in Pakistan and involved in various areas, such as education and road safety awareness campaigns.	FHA will encourage the involvement of road-user associations and similar organizations for broader participation and more involvement by the public and road users in road operations and development in the province.	Project progress reporting

Continued on next page

Table A4.2: District Policy Matrix and Action Plan (NWFP)

Main Areas of Reform	Objective	Key Issues and Actions Taken	Next Step of Reform and Actions	Compliance Monitoring
Institutional Reform with New Organization Structure	Transform the organizational structure of the districts so they become effective and modern road management organizations.	The devolution of provincial roads to the district has resulted in fragmentation of Works and Services Department (WSD). The structure and resources of the district administrations need to be reviewed to ensure they are appropriate to the new requirements.	Review the needs and constraints of the district administrations and identify resource requirements.	
Modern Maintenance Practices	Ensure that the districts have systems, procedures, and capacity to carry out effective and efficient road and bridge maintenance management.	Maintenance is at present rules-driven, labor-based, and performed by force account. Condition surveys are not institutionalized at the district level. Districts are unlikely to have the resources, at least in the short term, to support a RAMS.	Investigate the regular collection and presentation of road condition data as a support for rational decision making at the district level. Consider contracting services from FHA where appropriate.	Consultant's report WSD will submit the implementation plan with brief description of the new system and procedures.
Road-User Charges	Ensure that funding of maintenance for long-term preservation of the provincial road network is adequate and sustained.	Funding for maintenance is substantially less than requirements.	Investigate means of reducing the gap between funding availability and requirements including alternative sources of funds, or hypothecation of existing revenues.	Consultant's report WSD will submit the new proposal and implementation plan to ADB for comments.
Community Involvement	Encourage community participation in district road maintenance programs.	Community involvement is one way additional resources could be mobilized. Difficult to provide incentives to take on what will be seen as additional responsibilities.	Work with local nongovernment organizations to identify possible case studies. If successful, extend to other areas.	Yearly status report with completed actions to be submitted to ADB.
Road-User Associations	Increase involvement and participation of the public and road users in road operations and development.	A few road-user associations are established in Pakistan and involved in various areas, such as education and road safety awareness campaigns.	WSD will encourage the involvement of road-user associations and similar organizations for broader participation and more involvement by the public and road users in road operations and development in the province.	Project progress reporting

SELECTION CRITERIA AND APPROVAL PROCESS FOR SUBPROJECTS

A. Introduction

1. The selection of subprojects for rural access roads by North-West Frontier Province Provincial Government (NPG) will be subject to Asian Development Bank (ADB) approval. The selection criteria for subprojects and the approval process are outlined here.

B. Subproject Selection Criteria

2. **Poverty Targeting.** The subproject will have been prioritized based on the district development ranking used by the Government to determine allocation of its development expenditures. Preference will be given to roads that improve access of poor communities to schools, health facilities, and markets.

3. **Technical Feasibility.** The subproject will be technically feasible and a detailed report prepared.

4. **Economic Feasibility.** Economic analysis of the subproject will be prepared in accordance with ADB's *Guidelines for the Economic Analysis of Project* and the estimated economic internal rate of return will be at least 12%.

5. **Social Assessment and Analysis.** The subproject will be socially sound, minimize the need for land acquisition, and include measures to mitigate social impacts, if any. An initial social assessment for the subproject will have been prepared in accordance with ADB's relevant guidelines.

6. **Resettlement.** The proposed subproject road should not involve involuntary resettlement or land acquisition, and should have minimal impact on any people affected by the land acquisition, or their livelihood. If a subproject involves land acquisition or involuntary resettlement, a full resettlement plan (if the number of people affected is 200 or more) or short resettlement plan (if fewer than 200 people are affected), acceptable to ADB will have been prepared in accordance with the resettlement framework agreed to by the Government and ADB and in accordance ADB's *Guidelines on Involuntary Resettlement*.

7. **Indigenous People.** If any indigenous people, such as tribes or settlers, as per ADB's definition, are likely to be affected significantly by a subproject, an indigenous people's plan should be prepared in accordance with ADB's *Policy on Indigenous People*.

8. **Environmental Considerations.** Each proposed subproject road will have been screened for its environmental impacts in compliance with the requirements of the Government and ADB,¹ and will not cause any major adverse impact on the environment. ADB will have received and reviewed the initial environmental examination, if any, prepared for a proposed road. All necessary approvals and clearances will have been obtained for the subproject from the federal and provincial governments and related agencies.

9. **Counterpart Funding.** NPG will ensure that sufficient counterpart funding will be allocated to implement the subproject timely and efficiently in accordance with the overall implementation schedule.

10. **Government Approvals.** For each subproject, all necessary NPG approvals will have been obtained.

¹ ADB. 2003. *Environmental Assessment Guidelines of the Asian Development Bank*. Manila; and ADB. 2002. *Environment Policy*. Manila.

11. **District Commitment.** As appropriate, the relevant NPG district will have confirmed, in a manner acceptable to ADB, its commitment to the proposed subproject road, including the provision of budgetary allocations for road rehabilitation and operation and maintenance.

C. Approval Process for Subprojects

12. All subprojects will be required to comply with ADB's policies and guidelines, and satisfy ADB's procedures for subproject preparation with respect to technical, operational, economic, social, indigenous people, resettlement, and other requirements. NPG will ensure that sufficient counterpart funding will be available. These requirements were applied for the six core subproject provincial roads during project preparation. They were found to be technically feasible, economically viable, socially responsible, and environmentally sound. For additional subprojects, the requirements will be met during project implementation.

13. During the early stages of project implementation, the Project Management Unit, with assistance of the institutional and management consultants, will prepare a consolidated report for one or more subprojects covering all the stipulated ADB requirements, which will be sent to ADB for review and approval. Upon ADB's approval, the unit will proceed with further subproject preparation, procurement, and subproject implementation.

IMPLEMENTATION OF RURAL ACCESS ROADS

A. Allocation of Roads to Districts

1. The proposed criteria for allocation of roads to the districts is based on (i) connectivity represented by road density,¹ (ii) population representing needs and economic activity, and (iii) poverty based on district ranking.²

B. Selection

2. The Works and Services Department (WSD) will seek a list of priority roads from each district. The roads will preferably be selected from the 2,745 kilometers (km) of roads initially proposed by the districts. The length of the roads proposed by each district will be at least twice their allocation.

3. The WSD will forward the proposed list to the existing chief minister's selection committee (CMSC)³ for selection of roads, according to their allocation, for inclusion under the Project.

C. Eligibility Criteria for Roads

4. The eligibility of each selected road will be assessed based on the criteria that include technical and economic feasibility, social assessment, resettlement requirements, consideration for indigenous people, environmental aspects, stakeholder consultation, and availability of counterpart resources.

5. The project consultants under the WSD will prepare subproject proposals for each of the selected roads. The proposal will include all assessments required to meet the eligibility criteria.

D. Endorsement for Project Financing

6. The WSD presents the subproject proposals to the project steering committee (PSC)⁴ for its review and to ensure that the selected roads meet the eligibility criteria. The PSC will then endorse the roads for project financing.

E. Involvement of Districts in the CMSC and PSC

7. To ensure direct involvement of districts, 3–5 district coordination officers will be members of the CMSC and PSC.

¹ During implementation the road density will be firmed up based on detailed information provided by the districts on their network and verification by WSD.

² North-West Frontier Province. 2001. *Multiple Indicators Cluster Survey 2001*. Peshawar.

³ The selection committee is headed by the chief minister, and comprises the senior minister and secretary of WSD, project director, and five members of the Provincial Assembly representing different regions of the province.

⁴ Chaired by the additional chief secretary Planning and Development Department, the PSC will comprise of secretary, WSD; managing director, Frontier Highway Authority (FHA); representatives of the departments of finance, planning and development, and local government; and the NHA, WSD, FHA project directors. The FHA project director will serve as the PSC secretary. The PSC will meet at least quarterly.

F. Eligibility Criteria for Districts

8. To be eligible for proposing roads to be financed from the Project, the districts will need to demonstrate that they have an ongoing road maintenance program and that they have capable staff. The following indicators⁵ will be used to assess district's eligibility:

- (i) allocation of adequate resources for road maintenance in the previous year,
- (ii) expenditure of at least 75% of the funds received,
- (iii) utilization of the capacity-building opportunities under the Project and by others, and
- (iv) meet at least the minimum requirement for staff for road network.

G. Implementation

9. The WSD will engage consultants for design, preparation of bidding documents, procurement support, and construction supervision.

10. Bidding documents for the selected roads will be given to the districts for advertising.

11. Bids will be evaluated by a committee comprising the project director, the executive district officer (Works and Services), and the consultant.

12. Civil work contracts will be awarded by the districts. The consultants will supervise construction. The districts' technical staff will be involved in monitoring quality of road improvement works and final inspection of the completed works before issuance of the contract completion certificate.

H. Flow of Loan Funds

15. ADB shall advance funds to the Imprest Account established by WSD in accordance with procedures established by the Borrower and accepted by ADB. In the case of districts determined to have sufficient capacity, the eligible amount of the proceeds of the Loan shall be made available to the districts as specific purpose grants for road network improvement and connectivity, and shall be disbursed as follows:

- (i) based on quarterly estimates, funds shall be advanced by WSD to the second generation imprest accounts established at the district level,
- (ii) payment to the relevant contractors shall be made by the DGs based on invoices approved by the consultant designated by the WSD, and
- (iii) DGs shall report expenditures to the WSD on a monthly basis.

16. In the case of all of these districts, WSD shall directly disburse funds against invoices from contractors upon written authorization of payment by the responsible district engineer and the consultant.

⁵ These indicators will be developed during project implementation.

NORTH-WEST FRONTIER PROVINCE ROAD SAFETY ACTION PLAN

Issue	Current Situation and Action Taken	Actions Recommended	Specific Activities for Implementation	
			Activities	Agencies Concerned
A. Institutional Lack of effective road safety policy and weak coordination between various agencies concerned with road safety at national, provincial and district levels	National Highway Safety Ordinance passed September 2000	Constitute a senior provincial safety board constituted (or suitable institutional mechanism to strengthen interagency coordination) (by 2007).	Aid coordination Road safety cells/units set up in provinces and districts	North-West Frontier Province (NWFP) government (NPG) and aid agencies Frontier Highway Authority (FHA), districts
Poor data availability and lack of capacity for (i) data collection and database management on road accidents, and (ii) conducting systematic analysis	Asian Development Bank (ADB) helped National Highway Authority (NHA) in 1998 to set up a computer-based road accident database management system. No provincial support given	Assist FHA set up similar systems (by 2006). Strengthen the capacity of NHA and FHA to collect and manage data (by 2006).	The Project will develop a model program. The Project will develop a model database system.	FHA FHA
B. Engineering Measures Inadequate attention to road safety requirements in highway planning, standards, design, construction, and maintenance	ADB has developed guidelines on road safety that are being adopted in recently approved ADB projects in Pakistan.	Introduce road safety audits for all projects on national highways and provincial highways improved under the Project (by 2007). Ensure compliance with road safety norms at construction sites as per ADB safety guidelines (by 2007).	Audits by competent agencies (with the results of accidents analysis from data management system) Introduce in the terms of reference for supervision consultants	Works and Services Department (WSD) and FHA WSD and FHA
C. Enforcement Weak enforcement of road safety, poor control of overloaded trucks on highways, which lead to accidents and premature failure of roads	The National Highway and Motorway Police have made considerable improvement in road safety enforcement	Strengthen the enforcement mechanisms along national and provincial highways (by 2008).	Road safety component under the Project	WSD and FHA

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Issue	Current Situation and Action Taken	Actions Recommended	Specific Activities for Implementation	
			Activities	Agencies Concerned
	along motorways.			
D. Education Lack of systematic and standardized educational and training programs on road safety for drivers and road users	ADB has provided assistance with training and awareness building with the Provincial Highways Project.	Road safety awareness campaigns by the Government and nongovernment organizations need to continue. Special initiatives are required for separate training for drivers of vehicles, carrying dangerous/hazardous goods. Promote awareness about road safety among children and the community	Included in the terms of reference for consultants implementing the road safety component. Consultants implementing the road safety component	WSD and FHA

Source: Asian Development Bank estimates.

DETAILED COST ESTIMATE AND FINANCING PLAN
(\$ million)

Item	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange (%)	ADB	Government
A. Base Cost						
1. Provincial Policy Reforms and Institutional Strengthening						
a. Road Asset Management	0.5	0.2	0.7	71	0.7	0.0
b. Axle-Load Control	0.5	0.2	0.7	71	0.7	0.0
c. Material Testing Facility	0.0	0.1	0.1	0	0.1	0.0
d. Training Institute and Capacity Building	0.0	0.6	0.6	0	0.6	0.0
e. Consulting Services	1.6	0.8	0.8	67	2.4	0.0
f. Community-Participation Maintenance Initiative	0.0	0.5	0.5	0	0.5	0.0
2. Provincial Roads Improvement						
a. Land Acquisition and Resettlement	0.0	1.4	1.4	0	0.0	1.4
b. Civil Works (highways)	39.6	26.4	66.0	60	52.8	13.2
c. Civil Works (rural access roads)	51.6	34.4	86.0	60	68.8	17.2
d. Consulting Services (Design and Construction Supervision)	1.8	7.3	9.1	20	9.1	0.0
3. Subregional Connectivity Improvement						
a. National Highways Improvement						
i. Land Acquisition and Resettlement	0.0	16.7	16.7	0	0.0	16.7
ii. Civil Works	104.4	69.6	174.0	60	104.4	69.6
iii. Consulting Services	2.4	4.5	7.0	34	7.0	0.0
b. Cross-Border Facilities Improvement						
i. Civil Works	1.8	1.2	3.0	60	1.8	1.2
ii. Equipment	0.5	0.0	0.5	34	0.5	0.0
c. Environmental Mitigation and Management	0.0	1.3	1.3	0	0.0	1.3
4. Road Safety						
a. Pilot Road Safety Zone	2.6	1.9	4.5	58	2.7	1.8
b. Workshop, Seminars, Awareness Campaigns	0.0	0.3	0.3	0	0.3	0.0
c. Capacity building in Provinces	1.1	0.3	1.4	79	1.4	0.0
d. Consulting Services	0.3	0.3	0.6	50	0.6	0.0
5. Incremental Costs	0.0	3.9	3.9	0	3.9	0.0
Subtotal (A)	208.8	171.9	380.7	55	258.3	122.4
B. Contingencies						
1. Physical	8.9	3.8	12.7	70	12.7	0.0
2. Price	10.8	4.6	15.4	70	15.4	0.0
Subtotal (B)	19.7	8.4	28.1	70	28.1	0.0
C. Interest During Construction						
Total	243.2	180.4	423.6	57	301.2	122.4

Source: Asian Development Bank estimates.

IMPLEMENTATION SCHEDULE

Figure 9.1: Implementation Arrangement for Subregional Connectivity Improvement Component

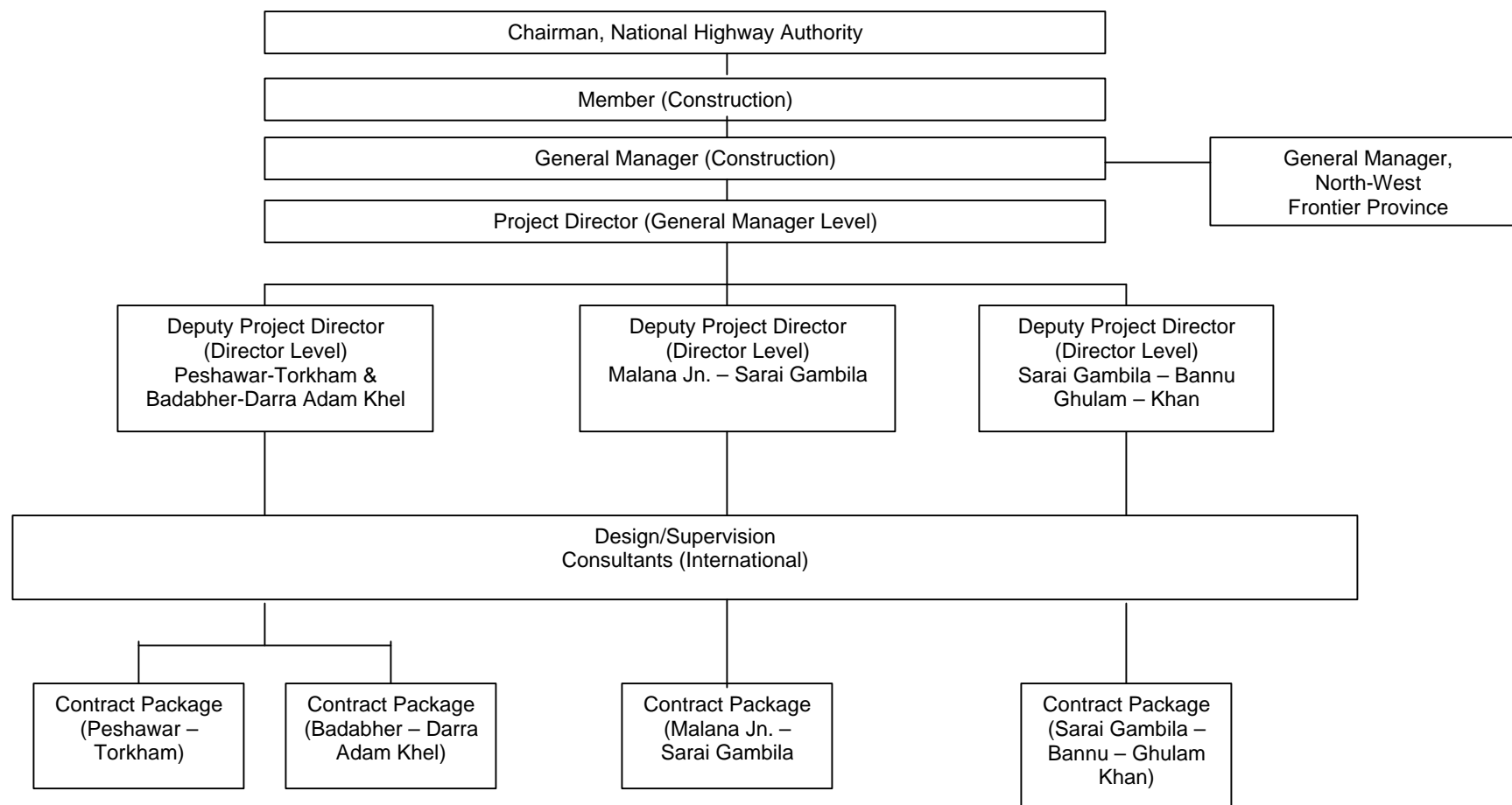


Figure 9.2: Implementation Arrangements for Provincial Policy Reforms and Institutional Strengthening and Provincial Roads Improvement Components

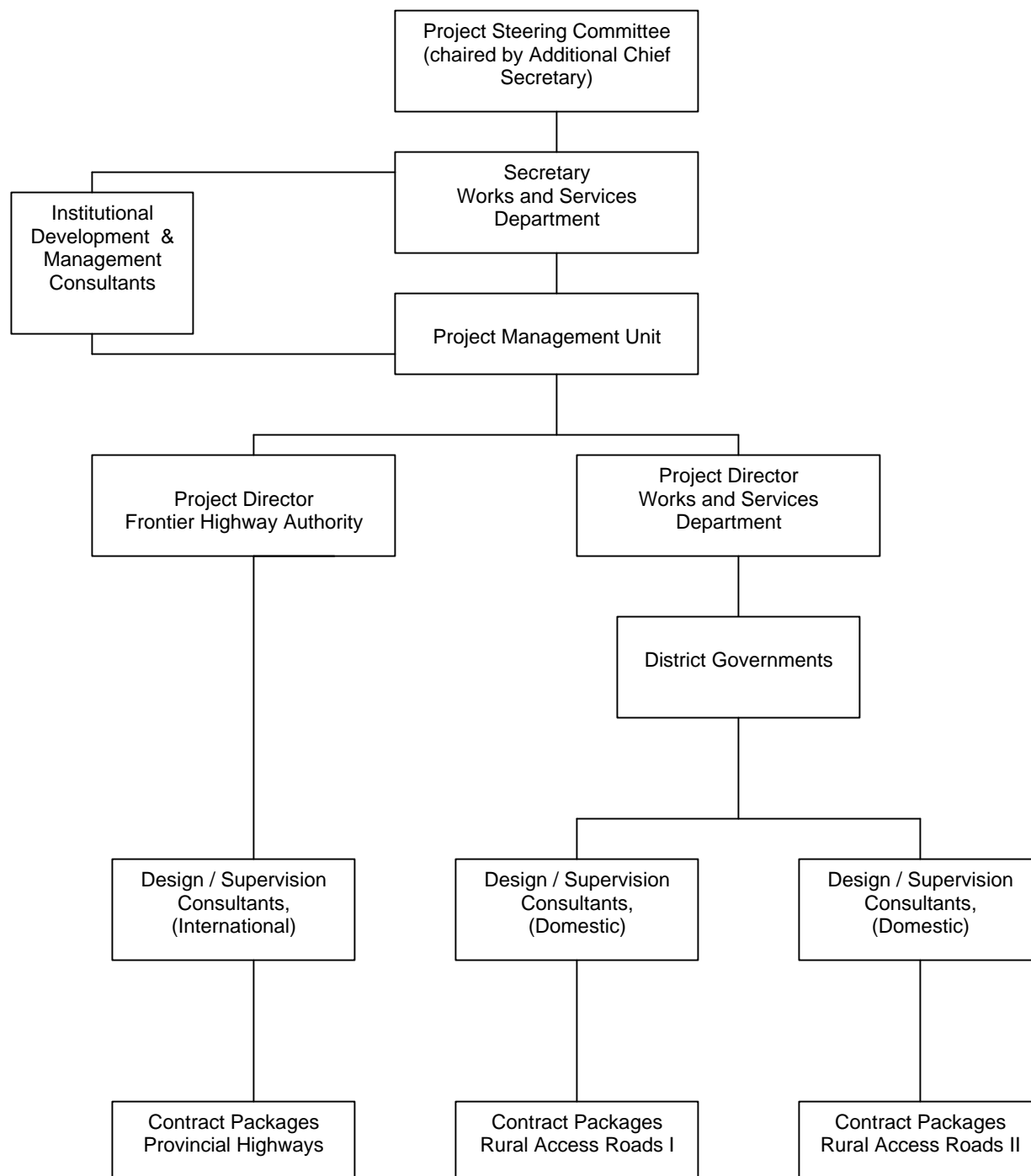
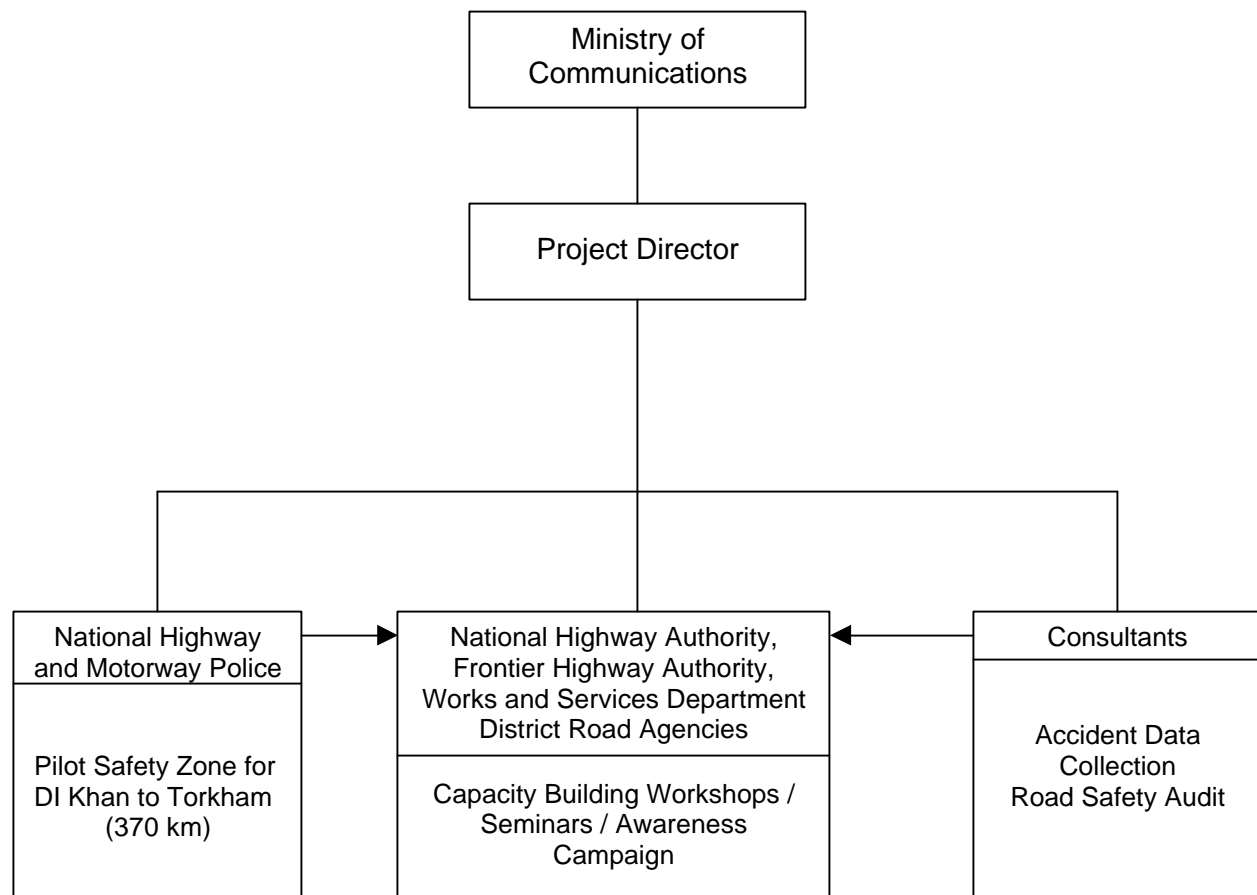


Figure 9.3: Implementation Arrangements for the Road Safety Component

IMPLEMENTATION SCHEDULE

Project Component	2004			2005				2006				2007				2008				2009				2010			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A. Land Acquisition, Resettlement, and Clearance of Right-of-Way																											
B. Policy Development and Institutional Strengthening																											
Consulting Services																											
Selection																											
Implementation																											
C. Provincial Highways Improvement Component (Frontier Highway)																											
Consulting Services																											
Selection																											
Design Review and Bids Evaluation Support (Phase 1)																											
Detail design and Preparation of Bidding Documents (Phase 2)																											
Construction Supervision and Contract Administration																											
Construction																											
Phase 1 Kohat-Thall																											
Jehangira-Swabi																											
Phase 2 Charsadda-Mardan, Timargarh-Munda, Kohat-Khushal																											
D. Rural Access Road Component (Works and Services Department)																											
Consulting Services																											
Selection																											
Design Review and Bids Evaluation Support (Core Roads)																											
Detail Design and Preparation of Bidding Documents (Phase1 and																											
Construction Supervision and Contract Administration																											
Construction																											
Phase1: Core Roads 103 kilometers (km)																											
Karak-Sabirabad, Umerzai-Harichand Dargai, Sargala-Martung																											
Chukiatang-Patriak-Kalkot, Lahore-Baika-Jehangira																											
Phase 2: 300 km																											
Phase 3: 300 km																											

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Project Component	2004			2005				2006				2007				2008				2009				2010			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
E. Subregional Connectivity Component (National Highway Authority)																											
Consulting Services																											
Selection																											
Design Review and Bids Evaluation Support (Phase 1)																											
Detail Design and Preparation of Bidding Documents (Phase 2)																											
Construction Supervision and Contract Administration																											
Construction																											
Phase 1	Peshawar-Torkham																										
	Malana Junction-Sarai Gambila																										
	Badabher-Darra Adam Khel																										
Phase 2	Sarai Gambila-Bannu-Miram Shah-Ghulam Khan																										
	Cross Border Facilities																										

INDICATIVE CONTRACT PACKAGES

Package No.	Road Section	Length (km)	Approximate Value (\$ million)	Construction Duration (months)
National Highways				
ICB 1	Malana Junction-Sarai Gambila (Section I)	59	27.3	24
ICB 2	Malana Junction-Sarai Gambila (Section II)	58	26.8	24
ICB 3	Badabher-Darra Adam Khel	28	11.5	18
ICB 4	Peshawar-Torkham	46	71.8	36
ICB 5	Sarai Gambila-Bannu-Ghulam Khan (Section I)	60	18.4	24
ICB 6	Sarai Gambila-Bannu-Ghulam Khan (Section II)	58	17.6	24
Provincial Highways				
ICB 7	Jehangira-Swabi	34	9.7	24
ICB 8	Kohat-Thall (Section I)	55	15.3	36
ICB 9	Kohat-Thall (Section II)	51	15.3	36
ICB 10	Charsadda-Mardan	28	12.5	24
ICB 11	Kohat-Khushal Garh	24	6.4	24
ICB 12	Tamrigarh Munda	20	6.2	24
Rural Roads				
LCB 1	Umerzai-Harichand Dargai (Section I)	10	2.2	24
LCB 2	Umerzai-Harichand Dargai (Section II)	12	2.1	24
LCB 3	Sarqala-Martung (Section I)	11	1.5	24
LCB 4	Sarqala-Martung (Section II)	12	1.7	24
LCB 5	Patriak-Kalkot-Thall-Badgoi (Section I)	10	1.7	24
LCB 6	Patriak-Kalkot-Thall-Badgoi (Section II)	10	1.7	24
LCB 7	Lahor-Baika-Jabbal-Jehangira	20	2.1	24
LCB 8	Karak-Sabirabad	18	1.8	24

ICB = international competitive bidding, km = kilometer, LCB = local competitive bidding.

Source: Asian Development Bank estimates

SUMMARY ECONOMIC AND DISTRIBUTION ANALYSIS

1. The North-West Frontier Province (NWFP) Road Development Sector and Subregional Connectivity Project will involve the improvement of some 1,200 kilometers (km) of selected national, provincial, and rural access roads. The economic analysis examined the expected contribution of the Project to NWFP and the subregion. A project approach is being taken for national and provincial highways and a sector approach is being adopted for the rural access roads. Four national highway sections and five provincial highways were selected along with five core rural access roads, to act as a sample of rural access roads to be implemented under the Project. These roads were selected by the NWFP provincial government (NPG) with assistance from the project preparatory technical assistance consultants. A similar analysis will be undertaken by the Executing Agency for noncore roads to be selected for inclusion in later stages of the Project. NPG has prepared a candidate list of roads from which roads will be selected

A. Methodology and Key Assumptions

2. The methodology used follows *Guidelines for Economic Analysis of Projects* of the Asian Development Bank (ADB). The highway development and management model, HDM-4, has been used for the analysis. The analysis includes only direct savings in vehicle operating costs (VOC) and travel time savings. Value added from better transport links resulting in new industries was not quantified.

3. The analysis considered with- and without-project scenarios. For most roads, the with-project option follows the existing alignment and only treatment alternatives (triple surface treatment or asphaltic concrete) were considered. In the case of Peshawar-Torkham several alignment options, different phasing of construction, and use of rail were considered. The with-project options described in this appendix are the most cost-effective options in each case.

B. Road Condition and Traffic

4. The condition of existing paved roads, in terms of the international roughness index, ranges from 6.9 to 11.5 for national highways and from 5.7 to 13.6 for provincial highways. Immediately after reconstruction, the international roughness index is assumed to be 2.5 for national and provincial highways and 4.0 for rural roads.

5. Traffic surveys were carried out on the core roads (Table A12.5). In the absence of historical traffic count data for most roads, traffic growth rates were estimated based on national averages. The growth rates shown in Table A12.1 were tested with the exceptions of the Peshawar-Torkham and Bannu-Ghulan Khan roads. The optimistic estimate was 10% for passenger and 12% for freight as these roads are expected to see rapid increases in cross-border traffic. By comparison, growth for the N-55 (the only NWFP road for which reports were available) is reported to be 7.5% per year, with some sections as high as 20%.

Table A12.1: Traffic Growth Rates

Category	Conservative (%)	Optimistic (%)
Care, Jeep, Taxi	5.0	6.0
Motorcycle	7.5	7.5
Wagon/Pickup	4.0	6.0
Bus	4.0	6.0
Truck	5.0	7.0
Multi-Axle	5.0	7.0

Source: Asian Development Bank estimates.

6. Additional traffic is expected because of the VOC reductions with the road improvements. In the case of national and provincial highways, the improvements are primarily upgrading existing

roads, so additional traffic will be relatively small—a 5% increase is assumed for 2007. For rural access roads, the improvement is more significant, changing the nature of the road in most cases—a 10% traffic increase is assumed for 2006. The exceptions are the Peshawar-Torkham road, where the improvement will have a significant impact—in this case a 25% increase is assumed for 2007; and Bannu-Miram Shah-Ghulam Khan where although some international traffic is using the route, development will open new opportunities—a 200% increase in freight traffic was assumed, bringing it up to about 25% of the Torkham traffic level. While the cumulative effect of these assumptions on the traffic forecast is large in percentage terms, both roads are starting from a low base.

C. Costs

7. VOC depends upon road conditions, and vehicle characteristics, utilization, and prices. For vehicle characteristics, default values of the highway development and management model have been used. Vehicle prices and utilization were estimated based on discussions with the motor industry. The tax component of vehicle and parts prices and fuel was deducted to give a border price equivalent value.

8. Road improvement costs were established for each road separately on the basis of estimated quantities of work using rates for each district from the composite schedule of rates (2000) of the National Highway Authority. For the national highway sections, previous cost estimates were updated using the same quantities, but using current national highway unit rates. The rates were converted to border price equivalent values assuming that the net effect of taxes and controls, monopoly rents on domestic costs, etc., is 15%. This is the value used in previous studies. The eventual source of materials and equipment is not known, making any better estimate difficult.

9. Maintenance costs are based on the unit rates for various maintenance operations. The unit rate schedules are financial costs inclusive of taxes and duties that are transfer payments. Previous studies have assumed a difference between financial and economic costs of 15%, which allows for tax, monopoly rent, and a shadow price of labor below the nominal wage rate. The project duration is assumed to be 1 year for short roads (less than 50 km), and 2 years for long road sections with 50% of the works to be carried out in year 1 and 50% in year 2.

D. Benefits

10. The main quantifiable benefits of the investment are (i) VOC savings for normal traffic; and (ii) VOC savings for additional traffic. The savings in VOC are generated primarily through better road surface conditions. Improvements in alignment and gradient also play a part particularly for the Peshawar-Torkham road. As the access to markets improves, economic activities are expected to increase, resulting in generated traffic. The benefit to generated traffic is based on an estimate of willingness to pay imputed from the difference in the financial cost with and without the Project. New users were not willing to pay the without-project cost but are willing to pay the with-project cost. The willingness to pay of new users is assumed to form a linear distribution between these extremes. Another benefit is the savings in periodic maintenance costs for NPG.

E. Results of the Economic Evaluation and Sensitivity Analysis

1. Economic Evaluation

11. The economic internal rates of return (EIRRs) for the selected roads have been computed using the highway development and management model-4. The EIRRs range from 17% to 33% for national highways, 18% to 29% for provincial highways, and 16% to 30% for rural roads—all above 12%. The EIRRs are shown in the first column of Table A12.2.

12. The sensitivity of the EIRRs to changes in key assumptions has been tested (Table A12.2). The analysis shows that the roads with the lowest EIRR are the most sensitive to changes in the key

assumptions. Since the current traffic mix is known, sensitivity to changes in the mix was not tested. Changing the differential growth rate had only a minor impact.

Table A12.2: Sensitivity Analysis

Road Section	Base Case EIRR	20% VOC Reduction	50% Reduction in Value of Time	20% Increase in Capital Cost	20% Increase in Capital Cost and 20% VOC Reduction	Reduction in Growth to 5%	One-Year Delay in Construction
National Highways							
Malana Junction-Sarai Gambila	30.0	25.7	28.2	26.4	22.4	25.5	28.1
Badabher-Darra	33.2	27.9	30.8	28.7	24.1	29.0	31.9
Adam Khel, Peshawar-Torkhum	21.6	19.8	21.4	20.2	15.6	17.1	21.2
Sarai Gambila-Ghulam Khan	17.5	15.8	16.4	15.4	12.5	15.9	16.8
Provincial Highways							
Charsadda-Mardan (2x7.3)	18.6	15.4	17.2	15.9	12.9	15.9	16.5
Jehangira-Swabi Option-I	28.9	24.4	27.2	24.9	20.9	25.0	27.1
Remaining Portion of Khushal Garh-Kohat	22.3	18.8	21.2	19.4	16.2	19.4	21.2
Kohat-Thall	24.5	20.7	22.4	21.2	18.1	21.4	22.7
Tamirgarh-Munda	17.8	14.8	16.1	15.3	12.5	13.8	16.1
Rural Roads							
Umerzai-Harichand Dargai	16.0	13.1	14.9	13.4	12.8	14.1	14.9
Karak-Sabirabad	18.3	15.3	16.8	15.6	13.4	18.3	16.4
Sargala-Martung	17.5	14.3	16.1	14.6	11.7	17.5	15.8
Patriak-Kalkot-Thall-Badgoi	25.4	21.2	23.9	21.7	18.0	22.3	23.2
Lahor-Baika-Jabbal-Jehangira	30.4	26.2	28.4	25.9	22.3	27.4	28.2

EIRR – economic internal rates of return; VOC – vehicle operating costs.

Source: Asian Development Bank estimates.

13. From Table A12.2 shows that the results are most sensitive to the assumed VOC (and thus the savings calculated from changes in these) and the capital costs. A reduction in VOC of 28% is required before one of the core roads ceases to be viable. An increase in capital costs of 30% is required before one of the core roads ceases to be viable. Column five shows a combination of these two worst-case scenarios producing both a reduction in benefits and an increase in capital costs.

14. A qualitative risk analysis was undertaken. Because the Project involves essentially marginal improvements to existing roads using standard construction techniques, the probability of the switching values being exceeded was considered low. The component most liable to variation is the capital cost. This risk has been reduced by taking a conservative approach to estimation of unit rates. The input data with greatest uncertainty are the traffic growth rates. However most roads are viable with no growth at all or even a decline in traffic. The exception is the Sarai Gambila-Ghulam Khan road. However once this is upgraded, it provides a much shorter route to the ports for the Kabul area of Afghanistan. As indicated in Table A12.3, reduction in the assumed growth rate to 3.5% is required before EIRRs for any of the rural or provincial roads drop below 12%. Project delays are considered very likely, but experience with past projects has been that this has affected the start date of the

project components, not the duration of their construction (the overall construction period was extended, increasing supervision costs).

Table A12.3: Switching Values

Road	Increase in Costs SV (%)	Decrease in VOC SV (%)	Traffic Growth SV (%)
National Highways			
Malana Jn-Sarai Gambila	100	84	(7.0)
Badabher-Darra	94	80	2.7
Peshawar-Torkhum	77	64	(4.5)
Sarai Gambila-Ghulam Khan	36	32	8.9
Provincial Highways			
Charsadda-Mardan	49	41	0.8
Jehangira-Swabi	85	75	(4.6)
Khushal Garh-Kohat	71	59	(1.0)
Kohat-Thall	78	69	(2.8)
Tamirgarh-Munda	46	39	3.5
Rural Roads			
Umerzai Dargai	31	28	(4.9)
Karak-Sabirabad	47	42	3.5
Sargala-Martung	38	34	1.8
Patriak-Thall-Badgoi	72	64	1.5
Lahor-Baika-Jehangira	82	88	(4.3)

SV = switching value, VOC = vehicle operating cost

Source: Asian Development Bank estimates.

2. Distribution Analysis

15. The distribution analysis has been undertaken following ADB's *Handbook for Integrating Poverty Impact in Economic Analysis of Projects*. All economic net benefits are distributed among the following categories of stakeholders: (i) local passenger users, (ii) through travellers, (iii) freight users, (iv) vehicle owners, (v) skilled and unskilled labor, (vi) government/economy.

16. The distribution analysis was undertaken separately for each road and summarized for national, provincial, and rural access roads. The total net benefits are about PRs14 billion (or \$240 million) in present value discounted at 12%. This does not include any estimate of the likely impact of through traffic between Afghanistan and the Central Asian republics and the Pakistan ports, which is likely to lead to further direct and indirect benefits. The size of these benefits depends on how the regional and national economies grow over the Project's time horizon and the competitiveness of Pakistan's ports and other infrastructure. Increasing the proportion of benefits going to through traffic will reduce the poverty impact ratio of the Project as a whole, particularly as the resulting additional maintenance cost falls on the province.

F. Poverty Impact

17. To undertake the poverty impact analysis, a household survey of 550 households was undertaken in the villages alongside the candidate roads; it included a question on trip making. For through travellers, an additional roadside survey was undertaken. Although the data were captured by road, they were aggregated to provide an overall figure of 40% of poor nonlocal travellers. The survey data were used to estimate the proportion of trips on each road that were local and through. Government vehicles are assumed to receive 5% of the vehicle-owner benefits.

18. The calculated poverty impact ratio varies widely between roads and is very sensitive to the EIRR of the individual roads. The poverty impact ratio values range from 37% to over 100% for

national highways (overall 46%); from 36% to 60% for provincial highways (overall 46%), and 42% to 80% for rural roads (overall 49%).

19. Table A12.4 summarizes the analysis of the individual roads. The top section of the table shows how the consumer surplus (the difference between the economic and financial benefit) is distributed among stakeholders. A total of PRs20.9 billion savings to existing traffic and PRs2.0 billion benefits to new traffic are distributed across local users, through traffic, freight users, vehicle owners, labor, and the economy. Most benefits are assumed to accrue to vehicle owners. Benefits to end users are passed on in the form of lower fares or improved services. The extent this occurs depends on the degree of competition—assumed to be higher on national highways. The Government is estimated to own about 5% of the vehicles. Skilled labor loses some benefits from existing traffic because vehicle maintenance is reduced, but gains from new users. Labor gains some of the PRs1.7 billion producer surplus from construction and maintenance.

20. The lower section of the table shows the proportion of the benefits that accrue to the poor. The proportion of stakeholders that are poor was estimated from household and roadside interviews, and varies between roads. All unskilled laborers are assumed to be poor. The proportion of poor in the economy at large was estimated from the poor's contribution to gross domestic product. The poverty impact ratio is the ratio of the benefit to the poor to the overall net benefit. Overall, the poverty impact ratio is 49%.

Table A12.4 Distribution and Poverty Impact Analysis—Summary

Overall Item	Net Benefits (PRs million)			Distribution Of Net Benefits (PRs million)						
	National		Government	Road Users				Labor		Govt/ Eco- nomy
	Economic PV	Financial PV	Difference	Local Users	Through Traffic	Freight	Vehicle Owners	Un- skilled	Skill- ed	
Inflows										
Savings	20,883	0	20,883	3,839	2,719	5,457	8,820	0	(416)	464
New Trips	2,039	0	2,039	323	148	703	785	0	39	41
Outflows										
Initial Capital	(9,731)	(11,434)	1,703	0	0	0	0	175	78	1,450
Maintenance	(277)	(331)	54	0	0	0	0	23	7	24
Net Benefits	12,914	(11,765)	24,679	4,162	2,867	6,161	9,605	198	(293)	1,980
Gains and Losses			12,914	4,162	2,867	6,161	9,605	198	(293)	(9,785)
Net Benefits for the Poor			6,285	2,847	1,147	2,464	1,011	198	(59)	(1,323)
		PIR	48.7%							

Table A12.5: Traffic Data for Projects Roads (2004)

Road	Animal-Drawn	Motor-cycles	Cars	Wagons	Buses	Trucks 2 Axles	Trucks 3Axles	Trucks >3 Axles	Total Motorized Traffic
National Highways									
Malana Junction-Sarai Gambila	18	38	861	1,211	424	1,063	803	164	4,563
Badabher-Darra Adam Khel	68	258	1,670	1,847	320	1,010	693	217	6,015
Peshawar-Torkhum	12	22	1,300	2,427	173	485	203	290	4,900
Bannu-Miranshah – Ghulam Khan	7	56	270	158	16	197	13	0	710
Provincial Highways									
Charsadda-Mardan	81	401	1,859	1,838	46	815	50	42	5,051
Jehangira-Swabi	189	267	1,125	1,526	118	898	106	43	4,083
Kohat-Khushal Garh	25	17	951	1,317	81	416	26	8	2,815
Kohat-Thall	72	166	1,475	1,611	52	324	53	16	3,697
Tamirgarh-Munda	105	174	636	863	50	280	68	0	2,071
Rural Access Roads									
Umerzai-Harichand Dargai	121	666	1,043	483	8	222	1	0	2,423
Karak-Sabirabad Road up to Shakardarra	40	106	257	561	5	80	2	0	1,011
Sarqala-Martung	6	38	64	154	2	34	0	0	292
Patriak-Kalkot – Thall-Badgoi	8	45	44	287	0	32	0	0	408
Lahor-Baika-Jabbal- Jehangira	15	38	54	158	2	45	1	0	298

Source: Asian Development Bank estimates.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis? <div style="float: right;"> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No </div>	Is the sector identified as a national priority in country poverty partnership agreement? <div style="float: right;"> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No </div>
<p>Contribution of the sector or subsector to reduce poverty in Pakistan:</p> <p>In general, road development provides direct benefits to road users and encourages economic development by allowing easier mobility and access to markets and suppliers. In Pakistan, the degree to which the poor benefit depends on a number of factors. In general, roads can reduce isolation, a common cause of poverty in the country. They can reduce transport costs, and allow easier access to population welfare services, sources of employment, health care, education, and banking and credit facilities; and provide opportunities for income generation along the roadside.</p>	

B. Poverty Analysis

Poverty Classification: Poverty Intervention¹

What type of poverty analysis is needed?

North-West Frontier Province (NWFP) is by far the poorest of the provinces in Pakistan, with an overall incidence of poverty substantially higher than that for the country as a whole. Poverty headcount for NWFP is 44%, compared with 33% for Pakistan. Both urban and rural poverty in NWFP are higher than that for the entire country: poverty headcounts for urban and rural NWFP are about urban 31 % and rural 47%, while for Pakistan the rates are urban 24% and rural 36%. Poverty reduction has occurred only in urban areas of NWFP, although it remains the highest for all urban areas in the country.

In addition, depth and severity of both urban and rural poverty² are relatively higher for NWFP than for the rest of the country. Inequality in NWFP, as measured by the Gini coefficient for equivalent adult consumption, is very similar to that for the country, in rural and urban areas alike. Poverty is associated with larger households, lack of asset ownership, and low education and literacy status. Land ownership in NWFP is more equal than for Pakistan, with relatively few large landowners. The majority of landowners (36% of the rural population) in NWFP belong to the category of small and marginal farmers, namely those who own either no land or up to 1 hectare. This makes NWFP relatively more equal and less hierarchical than areas with large landholdings and larger numbers of landless people.

The average daily income per capita is about PRs24³ compared with PRs33 for Pakistan as a whole. In 1988, the infant mortality rate (IMR) was 79 per 1,000 and the under-five mortality rate 116 per 1000 live births. Over one third of children (38%) under age 5 years are underweight. Only 39% of children of primary school age (5–9 years) in NWFF are enrolled in primary school with higher enrolment rates recorded in urban settings. About two thirds (63%) of the population has access to safe drinking water, 88% in urban and 59% in rural areas. The Pakistan Integrated Household Survey 1998/99 indicates that 42% of households in NWFP do not have toilets or

¹ Following the Board approval of the R-paper, *Review of ADB's Poverty Reduction Strategy*, staff instructions to replace the PI/CPI classification with a new tracking system are under preparation, in line with para. 83 of the R-paper.

² Measured by poverty gap and squared poverty gap respectively

³ Government of Pakistan. 2003. *Pakistan Integrated Household Survey 1998/99*. Islamabad.

access to communal latrines, which is lower than the national average of 46%. Of households with toilets, less than half (39%)⁴ have access to safe sanitation. Women on average spend 3.7 hours collecting water.

A household survey revealed a high level of poverty (51%) in communities adjacent to the road development project areas. This percentage was self-assessed and compares closely with the officially recorded poverty levels in rural areas of NWFP. Household size of the population in the project area (9.1) was considerably higher than the national average of 6.7 and the average for rural areas of NWFP (7.1). The ratio of employed persons to working age population is 37.2%. Most people earn their livelihoods from nonagricultural work (89%). The largest proportion of those employed (39.2%) are unskilled laborers. This is followed by agriculture workers at 17.8%. Transport-related work accounts for 10%. The rest of the population works for the government (including the army) and as small-scale trade people. Literacy levels are 37% in the project area. The area has few medical facilities: only one village in the project area has a maternal and child care center, and 40% of villagers have to travel more than 6 kilometers (km) to reach a basic health unit. Most villages have a mosque school in the village and a primary school either in the village or less than 1 km away. Girls' net enrolments are considerably less than boys. Villages in the vicinity of the Project either have no basic road linking them to the main road or have dirt roads in poor condition that are mostly inaccessible for transport services. Paved lanes inside villages are virtually nonexistent.

Project beneficiaries will be primarily road users. These will include the poor who will benefit from reduced fares and freight charges. The Project will encourage a degree of economic development by allowing easier mobility and access to jobs, markets, suppliers, banking and credit facilities, population welfare services, health care, and education; and may encourage increased income generation along the roadside. However, the Project will not automatically trigger significant lowering of barriers to the poor that will allow them to rise out of poverty. For example, in the case of women, severe social and cultural restrictions on their mobility combined with a low skill base mean that the benefits of improved roads are unlikely to make much impact on women's poverty. To enhance the ability of the poor and the very poor, especially women, to benefit from the development additional complementary mechanisms under the Japan Fund for Poverty Reduction (JFPR) project have been designed for lowering these barriers.

Poverty reduction will be monitored during implementation through changes in the fare costs and travel-related charges that impact on the poor and the proportion of poor households involved in employment activities in the implementation phase. A social and environmental cell will be developed within the Executing Agency, which will, among other tasks, monitor social and poverty impacts and manage the JFPR.

C. Participation Process

Is there a stakeholder analysis? ☒ Yes ☐ No

Is there a participation strategy? ☒ Yes ☐ No

One of the main objectives of the Project is to reduce poverty in communities adjacent to the road development project. During the socioeconomic studies carried out during the design

⁴ World Bank. 2003. *Report on Social and Institutional Assessment. Pakistan, NWFP Community Infrastructure Project*. Islamabad.

phase, the main issues identified were lack of health facilities, lack of roads linking communities to main roads, lack of or inadequate intravillage roads, lack of access to work opportunities, and low literacy levels. To strengthen the project design, consultations have taken place along the length of the candidate roads to identify common issues and themes. Communities will be encouraged to take responsibility for their own poverty reduction efforts through the JFPR community infrastructure project by establishing community self-help groups that will develop a situation analysis of their community and establish priorities for reducing poverty. In addition, the social and environmental cell will liaise between the Executing Agency and communities, develop awareness within the Executing Agency of the links between infrastructure development and communities, as well as coordinate and manage JFPR implementation. The JFPR will include development of community infrastructure and a community-managed maintenance scheme for subprojects constructed under the JFPR grant. Emphasis will be given to the participation of women through the JFPR community infrastructure project, especially in social infrastructure, e.g., in the education and health sectors.

D. Gender Development

Strategy to maximize impacts on women:

Participation of women in poverty reduction efforts will be encouraged through the JFPR community participation program

Has an output been prepared? ☐ Yes ☒ No

E. Social Safeguards and other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None		<input checked="" type="checkbox"/> Full <input type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	This may change if toll charges are imposed. In this case, charges will apply only to heavy vehicles.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	Use of pro-poor employment approach during construction so that the poor and vulnerable have preferential access to employment opportunities offered during project implementation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant	No indigenous people or ethnic minorities will be affected by the Project.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

	<input checked="" type="checkbox"/> None		
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None <input checked="" type="checkbox"/> Uncertain	Improved roads may prompt the government to group services such as schools or health center in large communities or district centers, further restricting access of the poor. The JFPR community infrastructure project will focus on reducing the barriers that prevent the poor from accessing services.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No