



Report and Recommendation of the President to the Board of Directors

Project Number: 44239
May 2012

Proposed Grant Kingdom of Bhutan: Air Transport Connectivity Enhancement Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 3 May 2012)

Currency unit	–	ngultrum (Nu)
Nu1.00	=	\$0.018873
\$1.00	=	Nu52.985000

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
DCA	–	Department of Civil Aviation
EMP	–	environmental management plan
IEE	–	initial environmental examination
MOIC	–	Ministry of Information and Communications
PIA	–	Paro International Airport
ppa	–	passengers per annum
TA	–	technical assistance

NOTE

In this report, "\$" refers to US dollars.

Vice-President	X. Zhao, Operations 1
Director General	J. Miranda, South Asia Department (SARD)
Director	S. Widowati, Transport and Communications Division, SARD
Team leader	D. K. Lee, Senior Transport Specialist, SARD
Team members	M. Ajmera, Social Development Specialist, SARD N. Chand, Senior Procurement Officer, Nepal Resident Mission, SARD J. Ghimire, Counsel, Office of the General Counsel K. Yangzom, Environment Specialist, SARD
Peer reviewer	A. Lee, Lead Portfolio Management Specialist, Papua New Guinea Resident Mission, Pacific Department

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

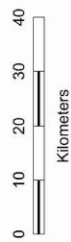
CONTENTS

	Page
PROJECT AT A GLANCE	
MAP	
I. THE PROPOSAL	1
II. THE PROJECT	1
A. Rationale	1
B. Impact and Outcome	3
C. Outputs	3
D. Investment and Financing Plans	4
E. Implementation Arrangements	4
III. DUE DILIGENCE	5
A. Technical	5
B. Economic and Financial	6
C. Governance	6
D. Poverty and Social	7
E. Safeguards	8
F. Risks and Mitigating Measures	9
IV. ASSURANCES	9
V. RECOMMENDATION	10
APPENDIXES	
1. Design and Monitoring Framework	11
2. List of Linked Documents	13

PROJECT AT A GLANCE

1. Project Name: Air Transport Connectivity Enhancement Project				2. Project Number: 44239-013							
3. Country: Bhutan		4. Department/Division: South Asia Department/Transport and Communications Division									
5. Sector Classification:											
		Sectors	Primary	Subsectors							
		Transport, and information and communication technology	√	Air transport							
6. Thematic Classification:											
		Themes	Primary	Subthemes							
		Economic growth	√	Widening access to markets and economic opportunities							
				Promoting economic efficiency and enabling business environment							
		Regional cooperation and integration		Cross-border infrastructure							
				Trade and investments							
		Capacity development		Organizational development							
6a. Climate Change Impact No Climate Change Indicator available.			6b. Gender Mainstreaming								
			Gender equity theme (GEN)								
			Effective gender mainstreaming (EGM)								
			Some gender benefits (SGB)								
			No gender elements (NGE)		√						
7. Targeting Classification:			8. Location Impact:								
General Intervention	Targeted Intervention										
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level								
√											
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>National</td> <td>High</td> </tr> <tr> <td>Regional</td> <td>Medium</td> </tr> <tr> <td>Rural</td> <td>Medium</td> </tr> </table>			National	High	Regional	Medium	Rural	Medium
National	High										
Regional	Medium										
Rural	Medium										
9. Project Risk Categorization: Low											
10. Safeguards Categorization:											
		Environment	B								
		Involuntary resettlement	C								
		Indigenous peoples	C								
11. ADB Financing:											
		Sovereign/Nonsovereign	Modality	Source	Amount (\$ Million)						
		Sovereign	Project grant	Asian Development Fund	6.92						
		Total			6.92						
12. Cofinancing: No Cofinancing available.											
13. Counterpart Financing:											
		Source	Amount (\$ Million)								
		Government	0.68								
		Total	0.68								
14. Aid Effectiveness:											
		Parallel project implementation unit	No								
		Program-based approach	No								

BHUTAN
AIR TRANSPORT CONNECTIVITY ENHANCEMENT PROJECT



This map was produced by the cartography unit of the Asian Development Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed grant to the Kingdom of Bhutan for the Air Transport Connectivity Enhancement Project.¹

2. The project is to improve infrastructure for the Bumthang, Gelephu, and Yonphula domestic airports. It aims to expand initial developments undertaken by the Government of Bhutan at these airports. The project is to strengthen safety and security, and enhance capacity, including priority needs for securing the airport perimeter; expanding terminal space, air craft parking apron, and taxiway; improving runways; and installing aeronautical communication and navigation aid equipment.² These improvements are targeted to meet the requirements of current and anticipated aviation activities in the country, and help continue the record of safety. Overall, it will support the government's plan to develop a safe, reliable, and efficient air transport system connecting urban and rural centers to help overcome the current limitations of road transport and improve accessibility to less-developed regions of the country. This will help facilitate greater and more equitable coverage of potential benefits from tourism growth, stimulate private sector development, and generate employment opportunities for the poor.

II. THE PROJECT

A. Rationale

3. Landlocked Bhutan faces unique development challenges and opportunities. The expansion and maintenance of physical infrastructure is critical for increasing the country's measure of gross national happiness. The country's small population of about 700,000,³ mountainous terrain, and formidable weather condition mean that achieving economies of scale in service delivery is difficult, and building and maintaining vital infrastructure, particularly the road network, is costly. Consequently, high external and domestic transport costs, and lack or limited accessibility have constrained the country's economic and social development.

4. Paro International Airport (PIA), Bhutan's only operating airport until recently and still the only one providing international air access, is located near the capital city of Thimphu in the western region. Due to the lack of domestic air connectivity, other regions of the country—particularly in the center, south, and, east—have limited access to regional and global markets. The tourism industry, for instance, a substantial economic contributor, is much better developed in the west compared with other regions. This imbalance in accessibility—to opportunity, enterprise, markets, and services—has been an obstacle to achieving broad-based economic growth, which is one of the government's major development goals.

5. Following the country's vision statement,⁴ the government's Tenth Five-Year Plan (2008–2013) highlights the development objectives for the country's transport system, focusing on enhancing connectivity to facilitate greater coverage of basic social services, including health and education in isolated regions, and improving transport efficiency—reducing travel time and cost—to boost domestic trade and cross-border transport. This will stimulate private sector development and generate employment opportunities for the poor.

¹ The design and monitoring framework is in Appendix 1.

² The Asian Development Bank (ADB) provided a project preparatory technical assistance (TA) to conduct a feasibility study and due diligence. ADB. 2010. *Technical Assistance to the Kingdom of Bhutan for the Air Transport Connectivity Enhancement Project*. Manila (TA 7633-BHU, \$600,000, approved on 5 November).

³ ADB. 2011. *Basic Statistics 2011*. Manila.

⁴ Government of Bhutan. 1999. *Bhutan 2020: A Vision of Peace, Prosperity and Happiness*. Thimphu.

6. To help achieve these objectives, the government decided to develop a safe, reliable, and efficient network of domestic air transport connecting urban and rural centers to help overcome current limitations of road transport, increase accessibility, and promote tourism and high-value agriculture in less-developed regions. In keeping with this strategy and based on airport master plans and feasibility studies, in 2010 the government selected and started developing three domestic airports—upgrading an existing airfield at Yonphula in the east, and constructing new airfields at Bumthang in the center, and Gelephu in the south.⁵ By December 2011, domestic flights, although limited in frequency, started operating at Bumthang and Yonphula, and flight operations at Gelephu are expected to start during 2012. However, due to limited available funding, the current facilities at these airports are very basic and only for initial air operation and passenger accommodation. Deficiencies include inadequate or lack of aircraft parking apron and taxiways, runway wearing course and drainage, communication equipment, security fencing, and other support facilities.

7. Overall, air transport activity in Bhutan is set to increase substantially as a result of the government's continued effort to brand and market tourist attractions in the country and the new initiative under way to introduce domestic air links. In 2010, the air passenger volume at PIA reached 127,181 passengers per annum (ppa), tripling from about 33,890 in 2000. Based on the updated air traffic forecast, if unconstrained by capacity,⁶ total air passenger traffic could grow to about 491,200 ppa by 2020, of which approximately 12% (59,900 passengers) would be carried on the new domestic services. By 2030, total ppa is forecast to increase on an unconstrained basis to 915,100 ppa,⁷ of which domestic passengers would account for 17.4% (159,600 passengers).

8. In view of the anticipated increase in aircraft movements and passenger volume, current deficiencies must be addressed, and initial developments undertaken by the government at the three domestic airports expanded to strengthen safety and security, and enhance capacity. The project will include (i) improving air operation safety by providing required air rescue and firefighting system facilities, aeronautical communication and navigation, and runway drainage; (ii) strengthening security with an airport cordon around the perimeter; and (iii) expanding capacity for terminal space, aircraft parking apron, and taxiway. The improvements were prioritized based on development needs identified in updated master plans for the three airports, projected traffic forecasts in terms of peak hour aircraft movements and passenger volume, as well as updated assessment of current developments and priorities for air transport in the country.⁸ By improving safety, security, and capacity at the three domestic airports, the project will help ensure operation of aircrafts with adequate capacity for continued passenger traffic growth and improved service and safety.

9. In keeping with lessons from similar projects in the region, regulatory and institutional capacity is critical to ensuring sustainable development of air transport in the country. An assessment of the organizational and management capacity of the Department of Civil Aviation

⁵ Airport Development Programme and Master Plans for Yonphula and Bumthang under the Bhutan Aviation Sector Capacity Development Project (2006–2008) financed by the Swedish International Development Cooperation Agency, and the Gelephu Site Feasibility Study (2008) financed by the government.

⁶ The unconstrained scenario assumes the PIA runway maintains the current peak hour capacity of 4 aircraft movements per hour, and the tourist infrastructure is able to accommodate the increasing number of tourists.

⁷ The unconstrained scenario assumes improvements at PIA increase the peak hour capacity from 4 aircraft movements per hour to 5 by 2022, and to 6 by 2027.

⁸ Previous airport master plans and feasibility studies were reviewed and updated under the technical assistance for the Air Transport Connectivity Enhancement Project (footnote 2).

(DCA) (footnote 2), including policy dialog with the government regarding the current regulatory framework, identified needed improvements. These include updating civil aviation acts and regulations to reflect current needs, developing a strategy to adapt a regulatory and operating framework based on international standards, and improving human resource development with technical training in the critical areas of regulatory oversight and airport operations. To help meet these needs, capacity development technical assistance (TA) from the Asian Development Bank (ADB) will be implemented starting in 2012.⁹ It will strengthen the country's air transport regulatory and operating performance, and help ensure that the benefits from the project—the first ADB-financed investment in air transport in Bhutan—will be optimized and sustainable.

10. The project and its outcome is consistent with the strategic objective set out in the interim country partnership strategy, 2012–2013: to assist the government in achieving broad-based economic growth.¹⁰ It will enhance the country's air transport connectivity, help improve access to regional and global markets throughout the country, and support tourism growth in less-developed regions. The project is included in the Bhutan country operations business plan, 2012–2014.¹¹

B. Impact and Outcome

11. In support of the country partnership strategy, the project impact will be improved air transport connectivity. The immediate outcome will be improved safety, security, and capacity at three domestic airports in Bumthang, Gelephu, and Yonphula.

C. Outputs

12. The outputs will be improved infrastructure at the three domestic airports, comprising (i) perimeter fencing of 4 kilometers (km), runway asphalt overlay of 36,000 square meters (m²), a general service and maintenance vehicle, and all-weather access road of 1 km in Bumthang; (ii) perimeter fencing of 4 km including security gate and guard house, air rescue and firefighting service support facilities, a general service and maintenance vehicle, all-weather access road of 2 km, expansion of terminal area of 1,000 m², apron and taxiway of 6,000 m², runway drainage system, flood protection structures, and communication and navigation aids equipment in Gelephu; (iii) removal of small hills beside runways¹², air rescue and firefighting service support facilities, a general service and maintenance vehicle, and repair of runway strip drainage of 500 meters in Yonphula.

13. The outputs will be achieved through key activities including (i) engagement of design and supervision consultant to prepare detailed engineering design, specifications, bill of quantities, cost estimates, and bidding documents; (ii) procurement of contracts for works and equipment; and (iii) execution of contracts to carry out the works and install equipment.

⁹ ADB. 2011. *Technical Assistance to the Kingdom of Bhutan for Strengthening Air Transport Regulatory and Operational Performance*. Manila (TA 7945-BHU, \$300,000, approved on 5 December).

¹⁰ ADB. 2011. *Interim Country Partnership Strategy: Bhutan, 2012–2013*. Manila. It extends the validity of ADB. 2005. *Country Strategy and Program: Bhutan, 2006–2010*. Manila to guide ADB operations for the remainder of the government's Tenth Five-Year Plan (2008–2013).

¹¹ ADB. 2011. *Country Operations Business Plan: Bhutan, 2012–2014*. Manila.

¹² The two very small hills or hillocks, up to about 12 meters at their highest point, adjacent to each side of the main runway, remain from original airstrip construction. Removal will help enhance flight operation safety.

D. Investment and Financing Plans

14. The project is estimated to cost \$7.6 million (Table 1).

Table 1: Project Investment Plan
(\$ million)

Item	Amount
A. Base Cost^a	
1. Works and equipment	5.13
2. Consulting services for design and supervision	0.77
3. Taxes and duties	0.60
Subtotal (A)	6.50
B. Recurrent Costs	0.10
C. Contingencies^b	1.00
Total (A+B+C)	7.60

^a In late-2011 prices.

^b Physical contingencies are computed at 10% for civil works and consulting services contract values. Price contingencies are computed at 5% on foreign exchange costs and 5% on local currency costs, including provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

Source: Asian Development Bank estimates.

15. The government has requested a grant¹³ not exceeding \$6.92 million from ADB's Special Funds resources to help finance the project, including works and equipment, consulting services, and recurrent costs for project management. The government's financing will cover recurrent costs for office accommodation in kind, and taxes and duties in form of an exemption.

16. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	6.92	91.00
Government	0.68	9.00
Total	7.60	100.00

Source: Asian Development Bank estimates.

E. Implementation Arrangements

17. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.¹⁴

¹³ A country's eligibility for Asian Development Fund (ADF) grants under the revised grant framework is determined by its risk of debt distress. The latest debt sustainability analysis determined that Bhutan had moderate risk of debt distress and was, therefore, eligible to receive 50% of its ADF allocation as grants.

¹⁴ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	July 2012–June 2016		
Estimated completion date	30 June 2016		
Management			
(i) Executing agency	Ministry of Information and Communications		
(ii) Implementation unit	Department of Civil Aviation (Paro International Airport), 8 staff		
Procurement	International competitive bidding	5 contracts	\$4.86 million
	Shopping	3 contracts	\$0.27 million
Consulting services	Design and supervision consultant using quality-and cost-based selection with simplified technical proposals and a 90:10 proportion of quality to cost, as the nature of the assignment related to civil aviation requires priority consideration for quality	13.5 person-months international and 47.0 person-months national	\$0.77 million
Advance contracting	Goods, works, and consulting services		
Disbursement	The grant proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2007, as amended from time to time) and detailed arrangements agreed between the Government of Bhutan and ADB.		

ADB = Asian Development Bank.

Source: Government of Bhutan.

III. DUE DILIGENCE

A. Technical

18. **Engineering.** The engineering design will be based on site condition surveys and field investigations, optimizing the required improvement works for economy and construction efficiency in accordance with applicable international design standards. The construction method will use proven technology with standard materials compatible with local conditions. To enhance resilience to climatic hazards and disasters, built-in civil engineering measures will be assessed and applied, including flood protection structures, design values of storm frequency and runoff, and drainage systems. Hydrological considerations will be heightened in consultation with the government's hydro-meteorological services division.

19. **Operation and maintenance.** DCA's Technical Support Division, which comprises four sections—civil, electrical, mechanical, and horticulture and beautification—is currently providing adequate maintenance services for PIA's airport facilities. With minimum staffing, it relies on external local contractors for several maintenance functions including some major maintenance activities for airside facilities such as the runway, taxiways, and apron. For current and future maintenance requirements for the domestic airports, DCA has assigned six full-time maintenance staff—two stationed at each airport in Bumthang and Yonphula, and two at the Gelephu airport once operations begin. Additional and more specialized maintenance staff could be seconded from PIA when required. Also under the project, general service and maintenance vehicles will be provided for each domestic airport at Bumthang, Gelephu, and Yonphula.

B. Economic and Financial

20. The economic assessment was carried out in accordance with ADB's *Guidelines for the Economic Analysis of Projects*.¹⁵ By improving safety, security, and capacity at the three domestic airports, the project will help ensure operation of aircraft types with adequate capacity for continued passenger traffic growth and improved service and safety.¹⁶ The economic benefits are derived from the air traffic that will be generated. Economic benefits will include an increase in tourist spending derived from longer stay in the regions and additional tourist arrivals to the country with better accessibility to more parts of the country, aeronautical revenues received by the airport from new traffic, and improved aircraft utilization by the airline operator. The economic internal rate of return for the project investment is estimated at 18.7%. A sensitivity analysis tested the effects of possible unfavorable scenarios resulting from changes in the key parameters that determine the project's costs and benefits. The analysis indicates that the project's economic viability would remain satisfactory even under adverse scenarios, and that a cost increase of 53% or decrease in benefits of 30% would be required to reach a cut-off economic internal rate of return of 12%.

21. The financial assessment was undertaken to assess the viability of the project investment based on revenues from the domestic airport improvements to cover the capital and operating costs. The financial internal rate of return is estimated at 2.9%.¹⁷ Based on the financial projections and evaluation, the project is financially sustainable and will generate sufficient revenue to meet the operation and maintenance expenditure and will recover the investment made. However, the rate of return on investment will not be significant. The economic analysis demonstrates the social and economic benefits from improved accessibility, including substantial tourism growth potential and local employment generation. Thus, overall the project is considered viable.¹⁸

C. Governance

22. **Policy, legal, and institutional capacity.** DCA, established in 1986 and currently under the Ministry of Information and Communications (MOIC), will be the executing agency responsible for administration of civil aviation and all matters concerning regulation and operation of the country's airports and airfields. The DCA director general reports to the MOIC secretary. Based on the sector assessment carried out under ADB's project preparatory TA, a capacity development TA (footnote 9) is under way to strengthen the regulatory and operating performance of air transport, including (i) preparing updates for the Civil Aviation Act 2000 and applicable Bhutan air navigation regulations to reflect current needs; (ii) formulating a framework for restructuring DCA and drafting necessary legislation to enable effective separation of the regulatory and operating functions; and (iii) providing technical training in the critical areas of regulatory oversight and airport operations. While DCA does not have experience with ADB-financed projects, it has undertaken infrastructure improvements funded by government sources and successfully implemented improvements funded by other bilateral development partners.

¹⁵ ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Manila.

¹⁶ Aircraft types include ATR 42 (short-haul regional airliner) or equivalent.

¹⁷ The government borrows from the market through treasury bills for its short-term needs and the cost to the government ranged from 2% to 6% in the last 4 years, according to Royal Monetary Authority of Bhutan. 2012. *Annual Report 2010/11*. Thimphu. This is used as a benchmark for financial viability.

¹⁸ The use of an ADF grant is appropriate as the rate of return on investment will not be significant, and overall social and economic benefits will accrue for the country.

23. **Financial management.** An assessment was carried of DCA's accounting system, financial reporting, and external audit procedures (footnote 2). DCA, a government agency, follows the accounting and reporting process detailed in the Finance and Accounting Manual developed by the Ministry of Finance. Based on this, DCA maintains its accounts on a cash basis and utilizes the government's standardized budget and accounting system, computerized since 2003, which produces satisfactory financial reports and ensures availability of data. DCA's project implementation unit for the project will include a suitably qualified accountant. DCA will maintain separate project records and accounts to identify the financing resources received and expenditures made for the project, ensuring an adequate audit trail. The Royal Audit Authority of Bhutan, an independent and nonpartisan institution authorized to perform audits on government agencies, will annually audit project accounts and related financial statements in accordance with international auditing standards.¹⁹ To minimize risks, ADB's direct payment procedure will be used for a substantial portion of the disbursements for works, goods, and consulting services.

24. **Procurement and anticorruption.** Under the government's Procurement Rules and Regulations (2009), the Public Procurement Policy Division under the Ministry of Finance is the oversight agency for public procurement in the country and is mandated, among other things, to make recommendations to the government for reform of the procurement policy or laws, prepare standard bidding documents, issue technical guidelines and manuals on procurement, liaise with government organizations to develop human resources and professionalism in procurement, and act as the central counterpart for any procurement-related issues in connection with donors. The regulations also recognize that donor rules and procedures on procurement may prevail in the case of donor-funded projects. The Anti-Corruption Commission under the Anti-Corruption Act of Bhutan, enacted in 2006, has authority to take necessary actions to prevent and combat corruption; investigate acts of corruption whenever there is evidence of corruption; sanction corrupt firms from participating in government bids; and monitor implementation of the anticorruption national strategy. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, MOIC, and DCA. The specific policy requirements and supplementary measures are described in the project administration manual (footnote 14).

D. Poverty and Social

25. **Poverty reduction and social impact.** The government's Tenth Five-Year Plan identifies poverty reduction as a core development theme, mainstreaming the poor through a targeted approach. In support of this, the three domestic airports covered by the project are located in the poorer gewogs and dzongkhags of the country.²⁰ The primary beneficiaries, based on the socioeconomic survey of the project influence area, will be people who are geographically disadvantaged with poor accessibility by roads.²¹ Improved air transport service will reduce travel time and help ensure emergency services for women, the sick, and the elderly. It will also help promote tourism, enhancing opportunities for local businesses and employment.

26. **Gender.** As the project activities are confined within the boundaries of each airport, the project will not directly interface with nearby communities. However, a gender analysis was

¹⁹ Audit standards are broadly in line with those of the International Organization of Supreme Audit Institutions.

²⁰ Gewogs and dzongkhags are equivalent to village blocks and districts, respectively. Bhutan consists of 205 gewogs, comprising 20 dzongkhags.

²¹ The socioeconomic survey covered 20% of households in the project influence area, and included public consultations and focus group discussions to gather feedback from local communities on the proposed development project and perceived socioeconomic impacts.

undertaken as part the social and economic assessment to assess possible impacts. Women in the project influence area are mainly engaged in agriculture and home-based income-generating activities. Most are anticipating possible benefits from employment opportunities during construction and business opportunities from tourism growth.²² Women are expected to attain equal benefits from the project. Provisions in bidding documents require contractors to ensure that all civil works comply with all applicable labor laws; do not employ child labor for construction or maintenance; encourage the employment of the poor, particularly women; and do not differentiate wages between men and women, particularly for work of equal value.

27. **HIV/AIDS.** The government has initiated many HIV/AIDS-prevention activities in the country, which has a very low incidence of HIV. Based on the poverty and social assessment, the project does not anticipate any rise in the risk of HIV/AIDS incidence. Contractors will carry out HIV/AIDS awareness activities for laborers at work sites, which will be monitored by supervision consultants.

E. Safeguards

1. Involuntary Resettlement and Indigenous Peoples

28. **Land acquisition and resettlement.** The project is classified as category C in accordance with ADB's Safeguard Policy Statement (2009). As the civil works and installation of equipment for the project will be undertaken within the existing boundaries of the respective airports, no private land or property will be acquired. Due diligence was undertaken to assess the status of compensation paid to affected people for land acquired by DCA for prior airport development undertaken with government funding. All the affected people have either been paid cash compensation or provided with land for land.

29. **Impact on indigenous peoples.** No indigenous peoples are living in the project area. No impact on indigenous peoples is envisaged as no physical or economic displacement will be required. Therefore, the project is classified as category C.

2. Environment

30. As the works and installation of equipment for the project will be improvements within the boundaries of existing airport facilities already developed by the government, the anticipated environmental impacts are low. Therefore, the project is classified as category B. In accordance with ADB's Safeguard Policy Statement, necessary due diligence of the environmental impacts for existing facilities previously developed by the government was carried out. In this respect, the initial environmental examination (IEE) includes a section on the review of environmental impacts and mitigation measures taken during construction of the existing facilities, as well as recommendations for continued and improved actions during implementation of additional improvements under the project. Anticipated environmental impacts include occupational health and safety issues, generation of dust and noise, and drainage problems. These can be addressed during the detailed design and construction phase through appropriate design and mitigation measures recommended in the environmental management plan (EMP). Typically for airport projects, the main long-term impact is the generation of noise, vibration, and air pollution during operations. In addition to complying with applicable international standards, appropriate landscaping and greenbelt development in each airport area is recommended to help minimize impacts. Consultations with communities residing in and around the airport sites were

²² Focus group discussions were undertaken with women belonging to different socioeconomic groups.

completed. The IEE report includes details of the consultations, feedback received, requirements for further consultation, and a grievance redress mechanism. As required by ADB's Safeguard Policy Statement, the IEE report was disclosed.

31. DCA needs to strengthen its overall institutional capacity, including for environmental safeguards, which will be assessed and addressed under ADB capacity development TA starting in 2012 (footnote 9). For the project, DCA's project director will serve as the overall environmental safeguard coordinator. The project coordinator for each airport will serve as the on-site focal point for environmental safeguards. The design and supervision consultant team will include an environment specialist to update the EMP and monitor contractor compliance. During implementation, training and coordination workshops on environmental safeguards and EMP implementation will be conducted for DCA, consultants, and contractors. Annual environmental monitoring reports will be prepared and submitted to ADB for disclosure on the ADB website, as required by ADB's Safeguard Policy Statement for environment category B projects.

F. Risks and Mitigating Measures

32. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.²³

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Government delay in releasing counterpart funds	ADB will cover 100% of total expenditure for works, goods, and services, exclusive of taxes and duties to be exempted by the Government of Bhutan. This will ease the financial burden on the government to provide counterpart funding and, thereby, ensure adequate cash flow during implementation.
Lack of previous experience with ADB-funded procurement	The design and supervision consultant team, including international and national procurement specialists, will help DCA's project implementation unit prepare bidding documents and the bid evaluation report, and execute the contracts.
Implementation delay	Advance action is being taken with the objective of awarding the consulting services contract shortly following grant effectiveness to ensure timely commencement of engineering design and preparation of bidding documents.

IV. ASSURANCES

33. The government and MOIC have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan documents.

34. The government and MOIC have agreed with ADB on certain covenants for the project, which will be set forth in the grant agreement.

²³ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

V. RECOMMENDATION

35. I am satisfied that the proposed grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the grant not exceeding \$6,920,000 to the Kingdom of Bhutan from ADB's Special Funds resources for the Air Transport Connectivity Enhancement Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant agreement presented to the Board.

Haruhiko Kuroda
President

29 May 2012

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
Impact Improved air transport connectivity	Number of air passengers per annum increases to 431,300 international and 59,900 domestic by 2020 (2010 baseline: 127,181 international and nil domestic)	Monitoring report of the Department of Civil Aviation	Risk Air traffic volume is adversely affected by the global economy.
Outcome Improved safety, security, and capacity at three domestic airports in Bumthang, Gelephu, and Yonphula	<p>Completion by 2016:</p> <p>Safety standards improved to meet ICAO requirements for air craft parking, aeronautical communication, and air rescue and fire fighting service support facilities</p> <p>Security standards improved to meet ICAO requirements for security cordon around perimeter</p> <p>Capacity for level of service in terminal areas improved from IATA standard grade E to B</p>	(For all indicators) Annual audit and inspection report of the Department of Civil Aviation	Assumption The government provides adequate funds for operation and maintenance expenses on time.
Outputs Improved infrastructure at three domestic airports in Bumthang, Gelephu, and Yonphula	<p>Completion by 2016:</p> <ol style="list-style-type: none"> 1. Bumthang airport: Perimeter fencing of 4 km, runway asphalt overlay of 36,000 m², a general service and maintenance vehicle, and all-weather access road of 1 km 2. Gelephu airport: Perimeter fencing of 4 km including security gate and guardhouse; air rescue and firefighting service support facilities; a general service and maintenance vehicle, all-weather access road of 2 km; expansion of terminal of 1,000 sqm, apron and taxiway of 6,000 m², runway drainage system and flood protection structures; and installation of communication and navigation aids equipment 3. Yonphula airport: Removal of small hills beside runway, air rescue and firefighting service support facilities, a general service and maintenance vehicle, and repair of runway strip drainage of 500 meters 	(For all indicators) Monitoring report of the Department of Civil Aviation	Assumption Civil works and equipment installation progress on schedule

Activities with Milestones	Inputs	
1. Improved infrastructure at three domestic airports in Bumthang, Gelephu, and Yonphula 1.1 Engage consultant for detailed design and supervision by August 2012 1.2 Complete engineering design, specifications, bill of quantities, cost estimates, and bidding documents by September 2013 1.3 Procure works and equipment by September 2013 1.4 Complete all civil works and installation of equipment by June 2016	Asian Development Bank: \$6.92 million Asian Development Fund (Grant)	
	Item	Amount (\$ million)
	Works and equipment	5.13
	Consulting services	0.77
	Project management	0.02
	Contingencies	1.00
	Government: \$0.68 million	
	Item	Amount (\$ million)
	Taxes and duties	0.60
	Office accommodation	0.08

IATA = International Air Transport Association, ICAO = International Civil Aviation Organization, km = kilometer, m² = square meter.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=44239-013-2>

1. Grant Agreement
2. Sector Assessment (Summary): Transport, and Information and Communication Technology - Air Transport
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Economic and Financial Analyses
7. Country Economic Indicators
8. Summary Poverty Reduction and Social Strategy
9. Initial Environmental Examination
10. Risk Assessment and Risk Management Plan