



# Air Navigation: Flying through Congested Skies A Worldwide Symposium



## Financing of Essential Air Transport Infrastructure A Challenge for Developing Countries



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# The Challenges

- ❖ Lesser developed countries (LDC) must meet international standards:
  - ➔ No tolerance for poor safety or security (e.g. blacklists, country assessments)
  - ➔ Operators are reluctant if infrastructure is deficient (cost for safety, security)
  - ➔ Growth constrained if standards are considered poor (limitation of access)
  - ➔ Income limited (e.g. ATC services)



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# The Challenges

- ❖ LDC are faced with necessary hard currency investments:
  - Basic infrastructure require large investments (e.g. runways, radar)
  - Air Transport Infrastructure seen as a low priority, competing with more important sectors (e.g. health, education, energy)
  - Difficulties to raise private funds

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# The Challenges

- ❖ LDC have difficulties to recover or retain operational income of the sector:
  - Competing sectors -> funds allocated to the central treasury (e.g. Afghanistan)
  - Air transport only source of hard currency income (e.g. Mongolia's ATC \$40 million)
  - Bad governance (disappearance of funds, corruption, non transparent procurement)



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## Three Financing Alternatives

1. Low cost solution: meet minimum standards (SARP)
2. Traditional Financing: Government funds and external financing (MDB)
3. New emerging markets trend: Private sector participation (PPI)

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# Low cost solution

- ❖ Meet Standards and Recommended Practices (SARP):
  - ➔ Minimum standards do allow low cost solutions (e.g. ATC, Safety & Security)
  - ➔ Positive safety and security ratings attract traffic and investments
  - ➔ Lack of safety & security compliance is mostly a problem of “lack of discipline” and poor governance not a lack of funding



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# Low cost solution

## Example Air Traffic Control

- ✈ Procedural ATC can be sufficient (but has low or limited capacity)
- ✈ New technology offer lower cost solutions (e.g. ADS-B, GNSS)
- ✈ Industry may contribute or invest (e.g. IATA GNSS procedures)



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# Low cost solution

## Good Example: Air Traffic Control

### **Mongolia**

- 40,000 over-flights per year
- Procedural ATC
- US\$ 40 million



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# Low cost solution

## Bad Example: Airport Safety & Security



The Caribbean



West Africa

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# Bad Airport Surveillance



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# Traditional Financing

- ❖ Three main sources
  - Government funds from operational income and allocated general funds
  - Financing by bilateral partners
  - Financing by Multilateral Development Banks (MDB)

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# Traditional Financing

- ❖ Government funds
  - ➔ Operational income must be allocated to the sector (e.g. landing fees, passenger taxes)
  - ➔ If insufficient, general funds must be allocated (based on approved Masterplan)





# Traditional Financing

## ❖ Bilateral partners

- ➔ Financing of airport or air traffic management infrastructure
  - ➔ Dar-Es-Salaam airport in Tanzania
  - ➔ € 53 million grant / loan by the Dutch Government



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# Traditional Financing

- ❖ Financing by Multilateral Development Banks (MDB)
  - Regional Development Banks (African DB, Asian DB, Inter-American DB)
  - Global Development Institutions (EBRD, The World Bank Group)

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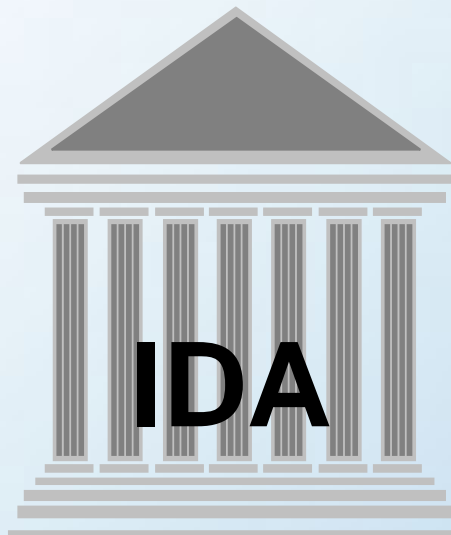


# The World Bank Group



**IBRD**

**1945**



**IDA**

**1960**



**IFC**

**1956**



**MIGA**

**1988**



**ICSID**

**1966**

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# The World Bank Portfolio

Fiscal Year 2005 (in millions USD)	IBRD	IDA	IFC	Total
Loans/Credit s outstanding	104,401	120,907	19,274	238,582
Transport Sector	15,660	14,509	1,204	31,373
Air Transport	380	270	275	925
Percent of rows above	15% 2.4%	12% 1.9%	6.2% 23%	13% 2.9%

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# WB Air Transport Projects

## Airport Infrastructure Projects

- ✓ Runways, apron
- ✓ Lighting & navigation systems
- ✓ Power & water System
- ✓ Terminal improvements (for security & safety)
- Tools: Public-Private Partnerships



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# WB Air Transport Projects

## Safety Infrastructure Projects

- ✓ Navigation aids (ILS, GNSS)
- ✓ Communication & surveillance (ADS-B)
- ✓ Fire & crash equipment
- ✓ CAA technical library
- ✓ Local capacity building
- Tool: Meet SARP & self-sustainable CAA



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# WB Air Transport Projects

## Security Infrastructure Projects

- ✓ Passenger & cargo screening equipment
- ✓ Communication & CCTV
- ✓ Fencing & terminal improvements
- ✓ Local capacity building
- Objective: Meet SARP & self-sustainable (fees)



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# Private Participation

## ❖ New emerging markets trend

- ➔ Private participation in infrastructure (PPI) have several modes
- ➔ Modern instruments of financing can facilitate foreign funding (e.g. securitization of ATC income)
- ➔ Good governance is essential to attract private investors



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# Private Participation PPI

	Complete Government Control			Complete Private Sector Control
<b>Ownership</b>	Government	Government	Government	Private Sector
<b>Investment</b>	Government	Government	Private Sector	Private Sector
<b>Management/Operations</b>	Government	Private Sector	Private Sector	Private Sector
<b>PPI Options (commonly used)</b>		<ul style="list-style-type: none"> <li>■ Service Concessions</li> <li>■ Contracting-Out</li> <li>■ Management Contracts</li> <li>■ Multiple Concessions</li> </ul>	<ul style="list-style-type: none"> <li>■ BOT scheme (BOOT, BTO, etc.)</li> <li>■ Long Term Leases (LDO, etc.)</li> <li>■ Master Concession</li> </ul>	<ul style="list-style-type: none"> <li>■ Wraparound Additions</li> <li>■ BOO</li> <li>■ Strategic Buyout (e.g., MEBO, etc.)</li> <li>■ Capital Markets</li> </ul>

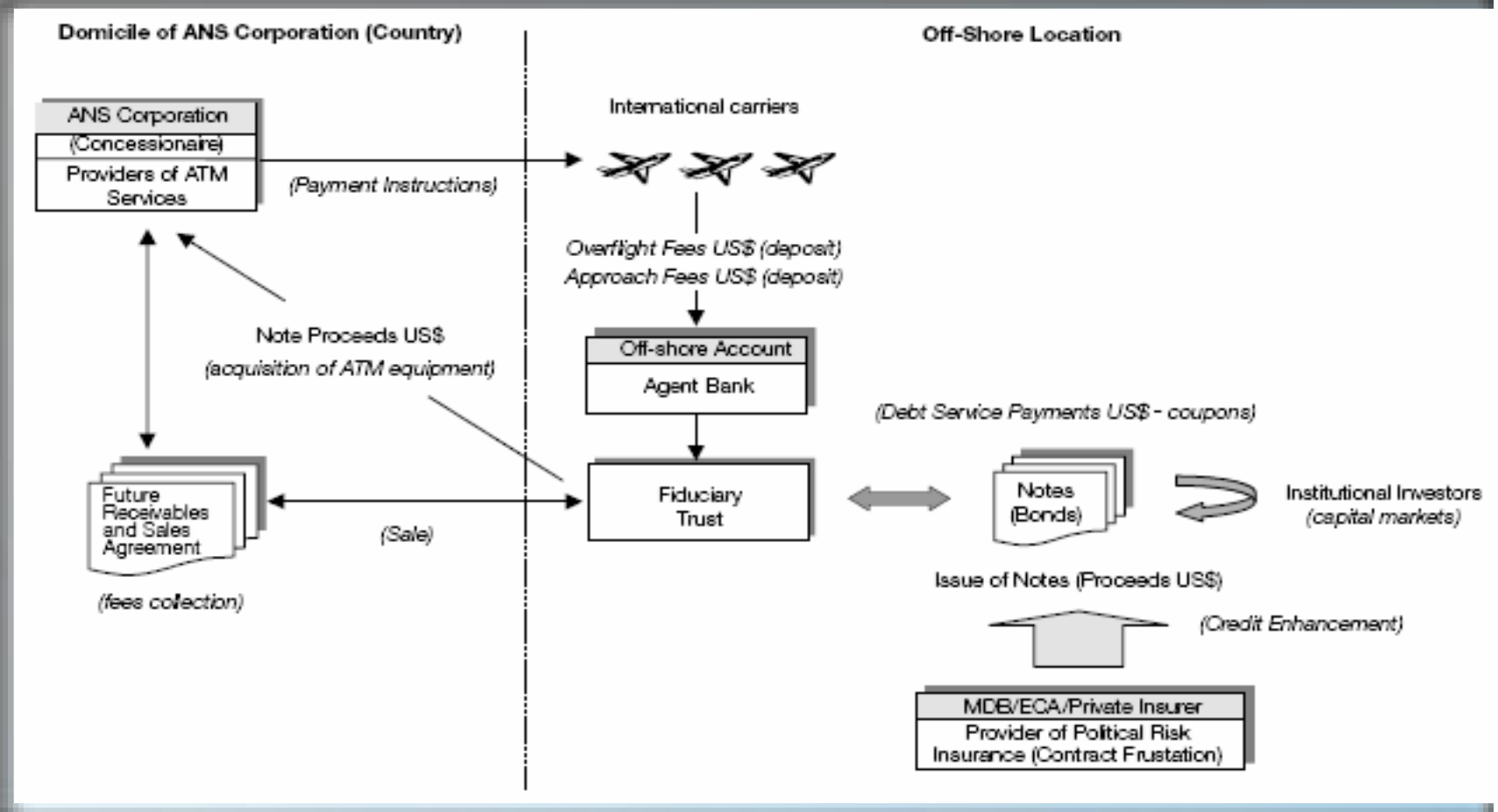
BOT=Build-Operate-Transfer; BOOT=Build-Own-Operate-Transfer; LDO=Lease-Develop-Operate  
 BTO=Build-Transfer-Operate; BOO=Build-Own-Operate; MEBO=Management-Employee Buyout



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# Example for Securitization of ATC fees to facilitate external funding



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# Conclusions

- LDC need to meet international agreed minimum standards for infrastructure and regulatory oversight
- Meeting minimum standards is primarily NOT a financial challenge, but a mostly a problem of political will and good governance
- Governments of LDC need to recognize the importance to adequately fund their aviation sector
- Funding is available from bilateral or multilateral partners or development institutions
- Private sector participation in infrastructure is the ultimate objective for LDC

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