National Audit Office

Department for International Development

Oversight of the Private Infrastructure Development Group

Appendix Three

Appendix Three

NAO country visits

1 This Appendix to our study *Oversight of the Private Infrastructure Development Group* provides more detail of the findings from our visits to three countries in which the Private Infrastructure Development Group (PIDG) has projects: India, Uganda and Nigeria. We also conducted a briefer 'remote' desk-based review of a project in Vietnam.

2 We provide a brief overview of the countries' economic development and the Department for International Development's (DFID's) aid programme, including its bilateral programmes relating to investment in infrastructure. For the projects we reviewed, we have included tables setting out their nature, key expected impacts and status at the time of our visits. We have also included our high-level views based on our review of relevant papers and discussions with the parties involved.

Our approach to the country visits

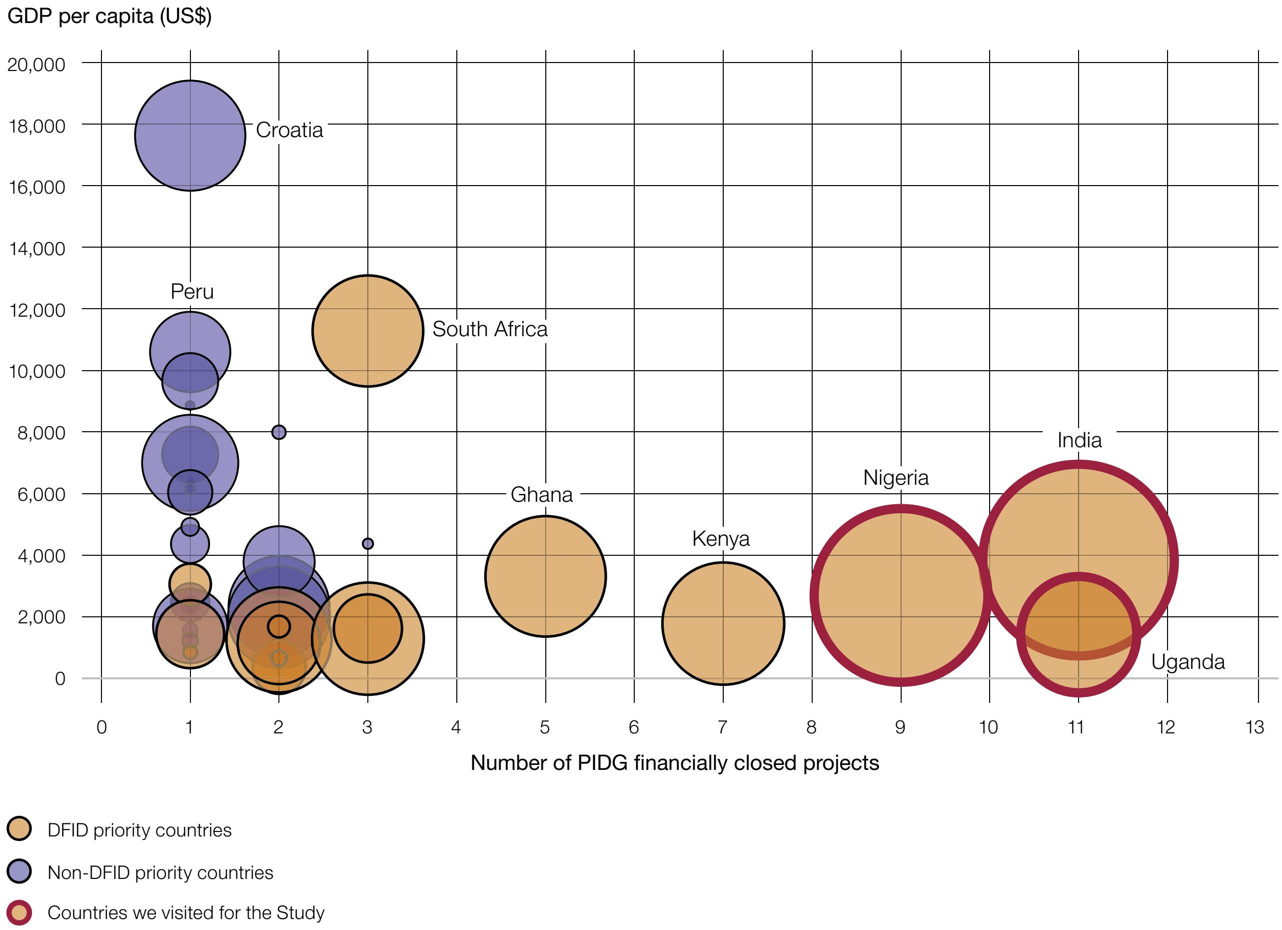
3 We selected the three countries for visits to ensure we covered a broad range of PIDG facilities and infrastructure sectors, as well as project types, sizes and stages of development.

4 In total, the countries represent 31 out 106 (29 per cent) of all PIDG projects; US$436 million out of US$1,481 million (29 per cent) of all PIDG commitments and US$8,402 million out of US$28,716 million (29 per cent) of all reported PIDG private sector investment.

5 Over 70 per cent of PIDG's financially closed projects are in states with GDP per head of below $5,000, and all three countries we visited fell into this category (**Figure 1**).

Figure 1
PIDG's focus on poor states

Size of bubble reflects size of PIDG commitment ($m)



Note

1 Kosovo and Palestinian territories have been omitted due to GDP per capita data being unavailable.

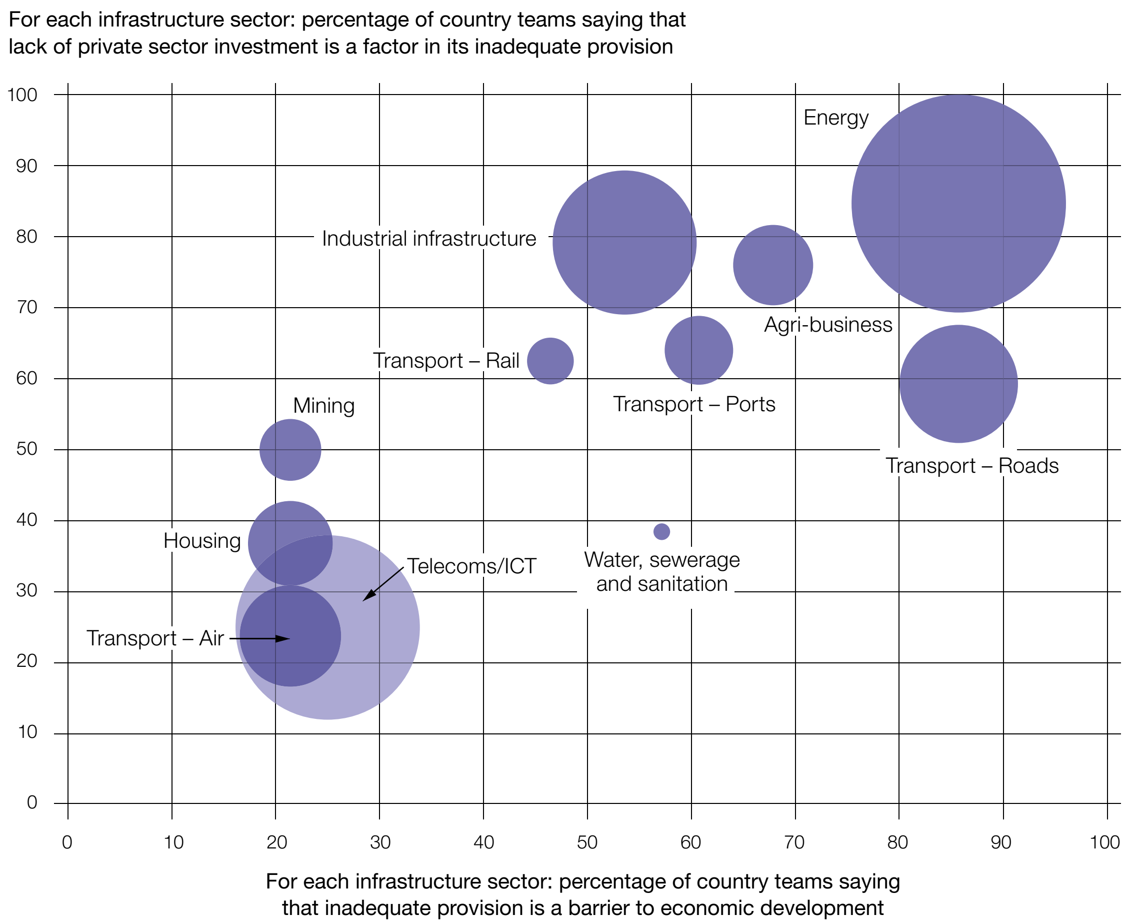
Source: National Audit Office analysis: GDP per capita data from the International Monetary Fund

6 We also surveyed all DFID country teams for our study. Most teams identified inadequate energy and agri-business as key barriers to economic development and most identified a lack of private sector investment as a factor in their inadequate provision (**Figure 2**). Relatively few teams considered inadequate infrastructure in air transport, housing, telecoms and mining to be a barrier to development or considered lack of private sector investment to be a factor in the lack of provision for these sectors. The teams' identification of key sectoral needs broadly aligns with PIDG activities. The projects we reviewed covered a wide range of sectors, including those teams saw as key, such as energy, agri-business, industrial infrastructure and urban development.

Figure 2

Country teams' views on sectors and PIDG's sectoral focus

Size of bubble reflects size of PIDG commitment ($m)



Source: National Audit Office analysis

7 During our visits to the countries, we sought to understand:

- the role of infrastructure in driving growth and reducing poverty in the country;
- key recent and potential developments relating to growth, poverty reduction and investment in infrastructure;
- the nature, extent of and barriers to domestic and foreign private sector investment;
- the activities of the DFID country team in relation to investment in infrastructure;
- DFID country teams' and state officials' awareness of, relationship with and views on PIDG's work in the country;
- DFID country teams' bilateral programmes and projects for infrastructure investment;
- the history and nature of PIDG's involvement in the country generally; and
- each of the PIDG projects we had identified for review, including the need for the project, its history, latest position, expected and actual impacts.

8 To improve our understanding of the wider issues, we interviewed:

- DFID country teams, including the head of office where possible;
- the facility managers responsible for the projects assessed;
- domestic national and state-level government officials; and
- other stakeholders with an interest in infrastructure development, including representatives from the local offices for development finance institutions, domestic private and public sector investors and business groups.

9 To understand PIDG's projects, we:

- reviewed data held by the programme management unit (PMU) on its results monitoring system;
- reviewed background papers provided by the facilities involved with the projects;
- conducted a brief physical inspection of the site wherever relevant and possible;
- interviewed the funding recipient and team implementing the project;
- interviewed local officials with an involvement in the project; and
- interviewed local business and community representatives.

10 Our project reviews were high-level, to inform our assessment of DFID's interests in PIDG. We did not audit the financial position of the projects we looked at, nor the financial position and practices of project promoters, supporters or investors. We took a high-level interest in project implementation and possible risks, but we did not examine these issues in detail and our assessments do not constitute project appraisals or evaluations.

NAO case study: India

Country overview and DFID's aid programme

Key economic and other statistics

11 The Organisation for Economic Co-operation and Development's (OECD's) Development Assistance Committee (DAC) classifies India as a lower-middle income country (LMIC). India is not considered to be a fragile state.[1]

Population – 1,236.3 million (2014 est.)

GDP – per capita estimates (purchasing power parity):[2]

- 2013: US$4,000, 168 highest in the world out of 229
- 2012: US$3,900
- 2011: US$3,800

GDP – estimated real growth rate:[2]

- 2013: 3.2 per cent, 108 highest in the world out of 220
- 2012: 5.1 per cent
- 2011: 7.5 per cent

Population below poverty line: The main areas of poverty are to the north and east of the country (see map).

Ease of Doing Business Index: 134 of 189 countries rated.[3]

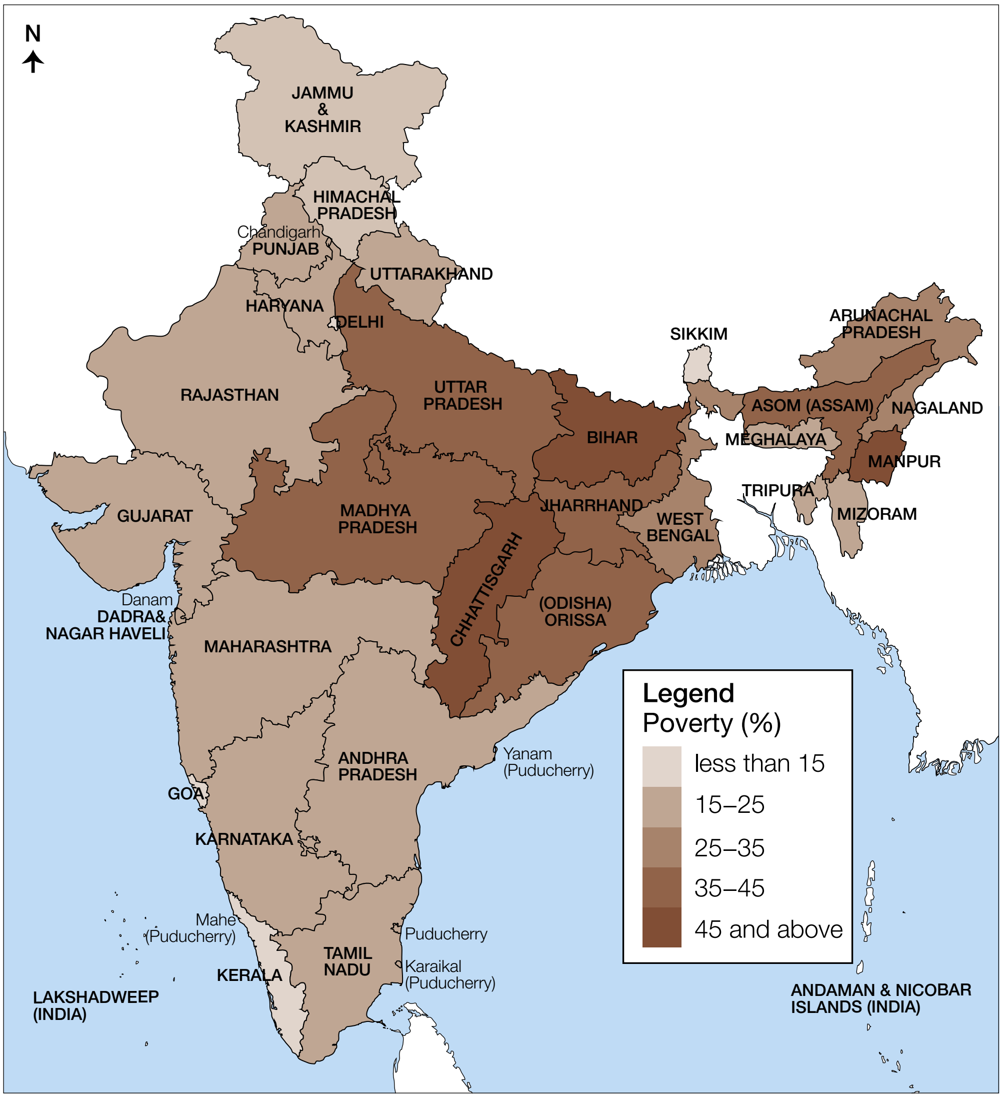
Corruption perceptions index: 94 of 177 countries rated.[4]

Human Development Index: 0.554 (2012), 136 highest in the world of 187 countries rated.[5]

Quality of infrastructure index: 86 out of 142 countries rated.[6]

1 OECD, *The DAC list of ODA recipients Factsheet*, January 2012.
2 United States Central Intelligence Agency, *The World FactBook*, 2014.
3 The World Bank, *Doing Business Rankings*, 2014.
4 Transparency International, *Corruption Perceptions Index*, 2013.
5 United Nations Development Programme, *Human Development Report 2013*. The Index measures development by combining indicators of life expectancy, educational attainment and income.
6 World Economic Forum, *The Global Competitiveness Report 2011-2012*.

Poverty map[7]



Source: based on map at www.mapsofindia.com

UK's contribution to total aid to India

12 Total bilateral aid provided to India was £1,271 million in 2011, of which the UK provided £283 million (22 per cent). In addition to bilateral aid, multilateral organisations provided an estimated £733 million of aid to India.[8]

13 India was the third-largest recipient of UK aid in 2012-13, behind Pakistan and Ethiopia.[9]

7 Reported in DFID's draft Country Poverty Reduction Diagnostic.
8 Department for International Development, *Statistics on International Development 2013* – tables, 2013.
9 Department for International Development, *Annual Report and Accounts 2012-13*, June 2013.

Overview of DFID's bilateral programme[10]

14 In 2012, the UK government announced that DFID's programme in India would be restructured and traditional financial grant aid ended. Projects already underway will be completed by the end of 2015, but the Secretary of State will not sign off any new programmes, and financial aid programmes to the country will end completely in 2015.[11]

15 All DFID India's new programmes focus on technical assistance in areas identified as priorities, including growth, trade and investment, skills and health. The team has also developed a programme of returnable capital investments in commercially-viable private sector projects intended to foster social entrepreneurship and create opportunities for the poor.

16 DFID India focuses on the eight poorest states in India, where 65 per cent of the country's poor people live: Uttar Pradesh; Rajasthan; Chhattisgarh; Jharkhand; West Bengal; Madhya Pradesh, Bihar; and Odisha. The country works particularly closely with the last three of these, with which it has established state-level partnerships.

17 DFID India's Operational Plan for 2011-2015 allocated £895 million, with a focus on four strategic objectives:

- focusing on India's low income states;
- improving the lives of over ten million poor women and girls;
- catalysing the private sector's potential to combat poverty; and
- deepening engagement with India on global issues where there may be benefits for poor people elsewhere.

Infrastructure priorities for India

18 India's 12th Five-Year Plan identified a need for better infrastructure to support growth. It set out plans for approximately US$1 trillion of infrastructure investment, with the private sector needing to contribute 48 per cent.[12] The Plan identified key sectoral priorities for investment as energy, road and telecommunications. India's Economic Survey, for instance, identified an overall energy deficit of 8.6 per cent.[13]

19 India has a programme of economic and industrial corridors – for instance, Mumbai-Bangalore, Chennai-Bangalore and Delhi-Mumbai – where the Government of India and states are seeking to improve transport connectivity and create industrial hubs and smart cities that attract inward investment.

10 Based on NAO analysis of *DFID India Operational Plan 2011–2015 – Updated June 2013*; and draft Country Poverty Reduction Diagnostic (CPRD).
11 DFID press release, *India: Greening announces new development relationship*, November 2012.
12 Planning Commission Government of India, *Twelfth Five Year Plan 2012–2017*, 2013.
13 Government of India Ministry of Finance, *Union Budget 2013-14 – Economic Survey*, February 2014.

20 In the last decade, India has also increasingly made use of Public-Private Partnerships (PPPs) to address its infrastructure needs. By the end of December 2012, India reported over 900 PPP projects in the infrastructure sector – the largest number in the emerging market countries. Of these, its Five-Year Plan stated however that "…investors are unlikely to be interested in investing in the remoter or more backward parts of the country and the development of infrastructure in these parts will have to rely dominantly on public investment."

21 Stakeholders we interviewed suggested that the main barriers to private investment in infrastructure were concerns about delays relating to bureaucracy, policy changes, perceptions of corruption, difficulties with land acquisition and a lack of expertise at all levels. They did not see financing in itself as a key constraint.

DFID's approach to infrastructure

22 DFID India's approach to infrastructure focuses on providing expertise to the state and small-scale investments intended to catalyse private sector investment that will generate returns that can be reinvested.

23 Key elements of its programme include:

- **Infrastructure Loan Fund** – DFID has set up a ten-year £36 million debt fund in partnership with a leading Indian infrastructure finance company. The intention is to fund at least 12 projects and mobilise at least £120 million of private investment, focusing on the poorest states. We visited the recipient for the first financially closed project – a wind turbine renewable energy project in Rajasthan to which DFID has loaned £4 million for ten years.

- **Infrastructure Equity Fund** – DFID has set up an equity fund with an Indian investment bank. DFID will invest up to £37.5 million, with the aim of supporting at least 12 private sector-led projects, mobilising at least £120 million of investment.

- **Affordable Housing** – In partnership with the National Housing Bank, DFID will loan up to £40 million to projects intended to enable first-time home ownership for poor families. Of this, £25 million will support construction of housing by private developers; and £15 million will be affordable home loans for poor households. DFID aims to support eight projects and attract £80 million of additional capital. A further £10 million is available to provide technical assistance to help improve the policy and regulatory environment. We visited an example housing project in Jaipur, Rajasthan.

Overview of PIDG in India

24 In February 2014, PIDG had 11 'closed' projects and seven projects 'in development' in India – more in total than any other country in which PIDG operates (**Figure 3**). Since 2004, six PIDG projects in India have been approved but subsequently cancelled.

Figure 3

Overview of PIDG Projects in India

	Projects which have reached financial close			Projects in development		
	Number of projects	PIDG funds committed (US$m)	Predicted private investment commitment (US$m)	Number of projects	PIDG funds committed (US$m)	Predicted private investment commitment (US$m)
By sector (PIDG classification)						
Housing	3	65.0	585.0	1	0.5	13.0
Transport – Roads	3	58.3	1,081.0			
Energy	1	50.0	2,352.0	2	2.6	350.0
Industrial Infrastructure	1	25.0	120.8			
Agri-Infrastructure	1	0.4	8.0	2	2.3	29.0
Water, sewerage and sanitation	1	0.3	10.2	1	0.2	6.0
Urban Development/Infrastructure	1	0.3	4.8	1	0.6	7.0
Transport – Ports	0	0	0			
By PIDG facility[1]						
GuarantCo	6	118.3	1,786.8			
ICF – DP	2	80.0	2,352.0			
DevCo	3	0.9	23.0	5	1.7	61.0
InfraCo Asia	0	0.0	0.0	2	4.4	344.0
All Indian projects	**11**	**199.2**	**4,161.8**	**7**	**6.1**	**405.0**
Indian projects as a percentage of all PIDG projects (%)	**10.4**	**13.5**	**14.5**			

Note

1 Excludes TAF grants.

Source: National Audit Office analysis of PIDG data

25 One of the 11 closed projects, PowerGrid Corporation of India, is supported by the ICF-DP Facility, which is funded solely by the German government development agency. The other projects are supported by facilities which DFID funds.

26 The NAO considered seven of PIDG's projects in India representing US$61 million of PIDG funds committed (**Figure 4**). One of these projects (Shriram II) was a second arrangement supporting the same company, Shriram, and we have therefore included it within the assessment for the first project in the table below (**Figure 5**). Two of the DevCo projects were in conjunction with small supporting TAF grants, which we include within the project descriptions overleaf.

Figure 4

PIDG Projects in India visited by the NAO

Mechanised Grain Market Infrastructure Development Project (HQ in New Delhi), $2.05m, 7:1 ✔

Rajasthan Public Street Lighting, $0.6m, 12:1 ✔

Au Financiers Ltd, Jaipur, $20m, 9:1 ✔✔

Bhubaneswar PSL, $0.24m, 20:1 ✔✔

Orissa SWM, $0.25m, 41:1 ✔✔

Also to understand DevCo interests in: Odisha Rooftop Solar Project, Odisha Affordable Housing, Odisha Rice Storage Project, Puri (Odisha) Solid Waste Management and...

Odisha Urban Development PPPs

Shriram Transportation 1 and 2, Mumbai, $38.3m, 23:1 and 25:1 ✔✔✔

GuarantCo	✔ Under development	Transport – Roads
DevCo	✔✔ Financially closed	Agri-Infrastructure
InfraCo Asia	✔✔✔ Post completion	Urban development
TAF	**x:1** Reported leverage	Water, sewerage, sanitation

Source: National Audit Office analysis

27 While in Odisha, we also heard about the DevCo projects listed below and discussed with state officials in the Government of Odisha the support provided by DevCo to infrastructure projects in the state. This information helped to inform our understanding of the wider work of DevCo and the infrastructure issues in Odisha, where both DevCo and DFID India have substantial interests.

Odisha Rooftop Solar Project

28 A rooftop/distributed solar power project in the cities of Bhubaneswar and Cuttack, which involves the installation and operation of grid-connected solar panels on rooftops of public buildings.

Odisha Rice Storage Project

29 A scheme for developing rice storage facilities on a PPP basis across the state.

Odisha Affordable Housing

30 The design and construction of housing units on a greenfield site to be provided by Bhubaneswar municipality and targeted at low income households.

Puri (Odisha) Solid Waste Management

31 An integrated solid waste management project to collect and treat highly variable waste volumes.

Figure 5
PIDG Projects seen by NAO in India

Project title	**Au Financiers (AuF)** A guarantee facility to help AuF loan to small entrepreneurs purchasing commercial vehicles	**Shriram Transportation I and II** Guarantee facilities to support a company loaning to small-scale truck owner-operators	**Mechanised Grain Market** Development of grain handling, storage and market facilities at multiple sites in Rajasthan
PIDG Facility	GuarantCo	GuarantCo	InfraCo Asia Development
Purpose of project and PIDG support	Au Financiers (AuF) is a Rajasthan-based Non Banking Finance Company which offers secured loans for new and second-hand commercial vehicles. It specialises in providing affordable loans to start-up and small taxi businesses operating in rural and semi-urban parts of India. AuF reports a branch network of 233 offices and 2,500 employees. In March 2013, GuarantCo provided a US$20 million equivalent facility in rupees to AuF as part of a US$60 million facility. The intention was to enable AuF to raise subordinated debt so that it could expand its lending to small entrepreneurs. The recipients of AuF loans are usually relatively poor and unable to secure bank loans because banks require more substantial evidence of their assets than AuF requires. GuarantCo estimated that the facility would enable nearly 15,000 additional loans, benefitting 22,400 people in total.	Shriram Transport Finance Company (STFC), part of the Shriram Group, is a Non Banking Finance Company, which specialises in providing financing to owner-operators in the trucking industry. STFC reports a network of 539 offices and over 16,000 employees. • Shriram I: In September 2010, GuarantCo and FMO each counter-guaranteed US$18 million in support of a US$42 million guarantee from Deutsche Bank. This was used to enhance the credit of Shriram's portfolio of vehicles, enabling it to increase its lending. GuarantCo estimated that Shriram was able to offer a further 64,000 loans and assumed each benefitted 2 people (128,000 people in total). • Shriram II: GuarantCo, FMO and Deutsche Bank provided further support to enable Shriram to raise capital in line with rising demand for its loans. GuarantCo estimated this would enable a further 16,000 loans benefitting 32,000 people.	InfraCo Asia approved a funding commitment of US$2 million for a scheme to develop grain processing facilities, grain storage and an electronic trading platform as a new grain market ('mandi'). Two sites are being developed as pilots in Rajasthan in collaboration with Rayfam Ltd, a local sponsor. The intention is to create six further local markets which will operate on a hub and spoke basis. The project is intended to improve handling efficiencies and reduce wastage by increasing sales speed and providing local storage capacity, meaning farmers do not have to travel further to the next nearest market. It also aims to improve the prices farmers can achieve.
Financing	GuarantCo: US$20 million equivalent facility in rupees. It expects this to be redeemed by 2018. FMO: US$20 million CDC: US$20 million	Shriram I: US$18 million from GuarantCo, US$18 million from FMO, US$5 million from Deutsche Bank. Shriram II: US$19 million GuarantCo facility in support of a US$49 million loan from FMO and US$5 million loan from Deutsche Bank.	InfraCo Asia: US$2 million committed Rayfam Ltd: US$7 million Additional financing to be raised
Location	AuF operates in 8 states – mainly in western and central India. About 50 per cent of its assets are in Rajasthan, one of the poorest states.	Shriram operates across almost all of India's states, although 50 per cent of its branches are in the south.	The two pilots are in Bikaner and Kota, Rajasthan – one of India's poorest states. Additional sites will also be in Rajasthan.
Year approved/ financial close	2013-2013	Shriram I: 2008-2008 Shriram II: 2010-2010	2012–2015 (expected)
Total PIDG funding commitment	US$20 million	Shriram I: US$18.3 million Shriram II: US$20 million	US$2.05 million

Figure 5 *continued*

PIDG Projects seen by NAO in India

Project title	**Au Financiers (AuF)** A guarantee facility to help AuF loan to small entrepreneurs purchasing commercial vehicles	**Shriram Transportation I and II** Guarantee facilities to support a company loaning to small-scale truck owner-operators	**Mechanised Grain Market** Development of grain handling, storage and market facilities at multiple sites in Rajasthan
Total predicted private sector investment	US$171 million	Shriram I: US$420 million Shriram II: US$490 million	US$14 million
Key predicted development impacts	22,400 additional people served 22,400 long-term jobs	Shriram I: 128,000 additional people served; 128,000 long-term jobs Shriram II: 32,000 additional people served; 32,000 long-term jobs	25,000 people receiving better services 200 short-term jobs 200 long-term jobs
Position at the time of our visits	Three quarters of the total facility (US$15m of GuarantCo's facility) had been disbursed to AuF by the end of 2013, with the balance due to be disbursed over 2014.	Shriram I: GuarantCo cancelled the guarantee before maturity because the commercial market had evolved sufficiently to meet Shriram's financing requirements. Shriram II: US$15 million of GuarantCo's facility has been disbursed to date. At the time of our visit, GuarantCo was considering providing a third facility for Shriram.	Under active development: one of the sites has been acquired and consultants had conducted a market survey, with detailed design underway. The other site was still being acquired at the time of our study.
NAO comment on PIDG's role, additionality, development impact and demonstration effects	AuF representatives stated that GuarantCo's support, by providing stable longer-term funding, had enabled it to grow more quickly. They said they also benefitted from being associated with international development finance institutions. However, AuF does have other sources of financing. It had US$600 million of assets under management at the end of 2012, and has received support from IFC, Indian banks and large private equity funders. Loan recipients stated that their livelihoods had improved, that they valued AuF's financial support and that they would have found it hard to raise financing from banks. Loan recipients are likely to be in poorer areas of India, given where the company operates. Users of commercial vehicles, such as auto-rickshaws, may also have benefitted from lower prices. The actual number of beneficiaries is hard to estimate, since some loans may have been to existing customers and many already owned vehicles. GuarantCo was not the lead arranger of financing, and is not plausibly responsible for all of the impacts of the combined funding.	Shriram representatives stated that GuarantCo's initial support had helped it to raise funding more cheaply and had large demonstration effects. Its guarantee of mezzanine capital had been a novel approach in India at the time, leading many other banks to follow suit. STFC is a large, growing company, established in 1974, listed on the National Stock Exchange and with about £5 billion of assets under management. Its representatives told us they could have raised financing elsewhere, albeit at a higher cost. We were concerned that GuarantCo's funding of a market-leading company could harm effective competition. The actual number of beneficiaries is hard to estimate, because some loan recipients may have been existing customers. The loan recipients we interviewed were long-standing clients with multiple vehicles (one told us they had a fleet of 25). As with AuF, it was unclear to us why the impacts cited included the same numbers for additional people served and people with long-term jobs.	The project is some way from being operational and we could not discuss it with potential beneficiaries. Its aims fit well with acknowledged problems with agriculture storage and market efficiency, which are seen as key issues facing rural India. The project's location, in one of India's poorest states with reported 70 per cent dependence on agriculture, means that positive pro-poor impacts are more likely. By piloting the concept, the project could have wider demonstration effects, leading to a growth in modernised, transparent markets. Project sponsors and fund managers acknowledged risks in its approach; they felt that farmers might not be willing to participate, and planned to request TAF funding for an education campaign. In terms of additionality, the co-financier told us that it could have afforded to fund the project itself, but that it wanted a long-term partnership and was attracted by InfraCo Asia's development brand, experience and knowledge.

Figure 5 *continued*
PIDG Projects seen by NAO in India

Project title	**Rajasthan Public Street lighting** Upgrading of some of the existing street lighting in Jaipur, Rajasthan	**Bhubaneswar Public Street lighting** Upgrading of some of the existing street lighting in Bhubaneswar, Odisha	**Odisha Solid Waste Management** Integrated waste collection and disposal in Berhampur, Odisha
PIDG Facility	DevCo	DevCo, and TAF grant	DevCo, and TAF grant
Purpose of project and PIDG support	IFC was appointed to provide transaction advisory services to the Jaipur Municipal Corporation in establishing a public-private partnership to upgrade its public lighting with energy efficient lamps leading to savings in energy consumption and possibly energy costs. IFC identified that DevCo could assist by arranging and synthesising the legal, environmental and technical consultancy advice to structure the transaction adequately. The project involves improving the efficiency of Jaipur's street lighting, by replacing the existing fluorescent and sodium lighting with energy-efficient lamps, supported by new lighting management. DevCo expects it to involve the replacement of 70,000 lights. The contractor would be paid by receiving a share of the energy savings, with the Jaipur Municipal Corporation keeping a minimum of 10 per cent.	IFC was appointed by Bhubaneswar Municipal Corporation in 2011 to provide transaction advisory services in establishing a public-private partnership to upgrade its public lighting with energy efficient lamps leading to savings in energy consumption and possibly energy costs. IFC identified that DevCo could assist by arranging and synthesising the legal, environmental and technical consultancy advice to structure the transaction adequately. The project involves improving the efficiency of Bhubaneswar's street lighting, by replacing the existing fluorescent and sodium lighting with energy-efficient lamps, supported by new lighting management. The winning contractor will be responsible for the upgrading and maintenance of 20,000 of the city's 29,000 lights. The contractor will receive 90 per cent of the predicted energy savings, and the municipality will receive 10 per cent. DevCo has also secured US$50,000 TAF grant for a capacity building programme for municipal officials in support of improving street lighting energy efficiency in Bhubaneswar.	IFC was appointed by Berhampur Municipal Corporation in 2011 to provide transaction advisory services in establishing a public-private partnership to improve solid waste management services. IFC identified that DevCo could assist by arranging and synthesising the legal, environmental and technical consultancy advice required in support of the bid process. The project involves the collecting, transporting, treating and disposing of municipal solid waste. The winning contractor will decommission the existing dumpsite and develop a new landfill site with composting and recycling facilities. The contractor is expected to improve existing services for half of Berhampur's population and provide new services to the other half. Once service improvements are visible, the municipality plans to start levying a new tax on residents to help pay the fee for tipping waste. DevCo has also secured $225,000 TAF grant for capacity building to help the council manage its new contract and to support local engagement.
Financing	DevCo: US$600,000 IFC: US$460,000	DevCo: US$250,000 TAF: US$50,000 IFC: US$210,000	DevCo: US$250,000 TAF: US$225,000 IFC: US$270,000
Location	Jaipur is the capital and largest city of Rajasthan, northern India.	Bhubaneswar is the capital of the east Indian state of Odisha.	Berhampur is the third largest city in the east Indian state of Odisha.
Year approved/ financial close	2012–2014 (expected)	2011–2013	2011–2013
Total PIDG funding commitment	US$600,000	US$250,000	US$250,000
Total predicted private sector investment	US$7 million	US$4.8 million	US$10.2 million

Figure 5 *continued*
PIDG Projects seen by NAO in India

Project title	**Rajasthan Public Street lighting** Upgrading of some of the existing street lighting in Jaipur, Rajasthan	**Bhubaneswar Public Street lighting** Upgrading of some of the existing street lighting in Bhubaneswar, Odisha	**Odisha Solid Waste Management** Integrated waste collection and disposal in Berhampur, Odisha
Key predicted development impacts	1.65 million people receiving better services 100 long-term jobs 100 short-term jobs	167,547 people receiving better services	182,720 additional people served 173,103 people receiving better services 300 long-term jobs 50 short-term jobs
Position at the time of our visits	Under active development: at the time of our visit, bids had been received from potential operators and were under consideration.	Closed: The contract was signed with the winning bidder in October 2013, since when it has been establishing a baseline to determine which lights need replacing. The TAF programme has also started.	Closed: In August 2013, Berhampur agreed a 20-year concession with a consortium for solid waste management services. The company was developing its plans for the new site. The TAF programme has started.
NAO comment on PIDG's role, additionality, development impact and demonstration effects	The project was still in development when we visited and we were unable to discuss it with potential beneficiaries. Rajasthan is a low-income state, suggesting that beneficiaries are more likely to be poor. The number of potential beneficiaries in a city of over 3 million people is large, although it was unclear how many would actually be affected, and whether the lights would cover areas of greatest poverty. If the project is successful, the municipality expected the approach to have demonstration effects, with application to other cities in Rajasthan. DevCo's application for funding did not assess whether the municipality could afford to pay for the consultancy it provided, but the municipality told us that it would probably not have established a public-private partnership without IFC's involvement. IFC developed an inventory database intended to help the municipal body maintain a future asset register.	Odisha is a low-income state, suggesting that beneficiaries are more likely to be poor. We visited a pilot stretch of lights alongside a street with traditional lighting; several of the traditional lights were not functioning. The team told us that the new lights were double the price of the old, but used much less energy and lasted nearly three times as long. Municipal officials and DevCo had been surprised by the size of the savings offered by the successful concessionaire. This suggests that monitoring delivery will be particularly important, given the potential for the operator to dim lights outside core hours. State officials for Odisha praised IFC's and DevCo's support for public-private partnership deals, stating that it was better than that from other providers. However, both they and the winning contractor indicated that they could have paid for the consultancy themselves. We also found little awareness generally that DevCo support was funded by PIDG rather than by IFC.	Odisha is a low-income state, suggesting that beneficiaries are more likely to be poor. Our visit found that the existing waste site is a potential health hazard to nearby poor residents and current waste collection is inadequate. The new site is further from residential areas; some people living near its route will be affected, although mitigation is planned. The municipality told us that it planned to help people who live off rubbish they find at the current waste site, for instance through vocational training. The concessionaire told us that IFC's involvement gave it more confidence to bid, and that it could generate revenues from recycling and composting. The company suggested there would be 200 long-term jobs rather than the 300 initially expected by DevCo. In terms of additionality, the municipality was clear that it had no funds except those provided by the state government and could not have proceeded without IFC help. We noted that scrutiny at donor approvals stage had identified an opportunity for DevCo to reduce expected consultancy costs from US$1.2 million to actual costs of US$0.5 million by using the same consultant for the Bhubaneswar public street lighting and Odisha solid waste management projects.

NAO case study: Uganda

Country overview and DFID's aid programme

Key economic and other statistics

32 The Organisation for Economic Co-operation and Development's (OECD's) Development Assistance Committee (DAC) classifies Uganda as a least developed country[14] and it is widely acknowledged to be a fragile state.

Population – 35.9 million (July 2014 est.)[15]

GDP – per capita estimates (purchasing power parity):[15]

- 2013: US$1,500, 206 highest in the world out of 229
- 2012: US$1,400
- 2011: US$1,500

GDP – estimated real growth rate:[15]

- 2013: 5.6 per cent, 44 highest in the world out of 220
- 2012: 2.8 per cent
- 2011: 6.2 per cent

Population below poverty line: concentrated in the north of the country. The poverty rate is typically under 40 per cent in the south of the county, rising to more than 70 per cent in central Uganda and higher in parts of the north (see map overleaf).

Ease of Doing Business Index: 132 of 189 countries rated.[16]

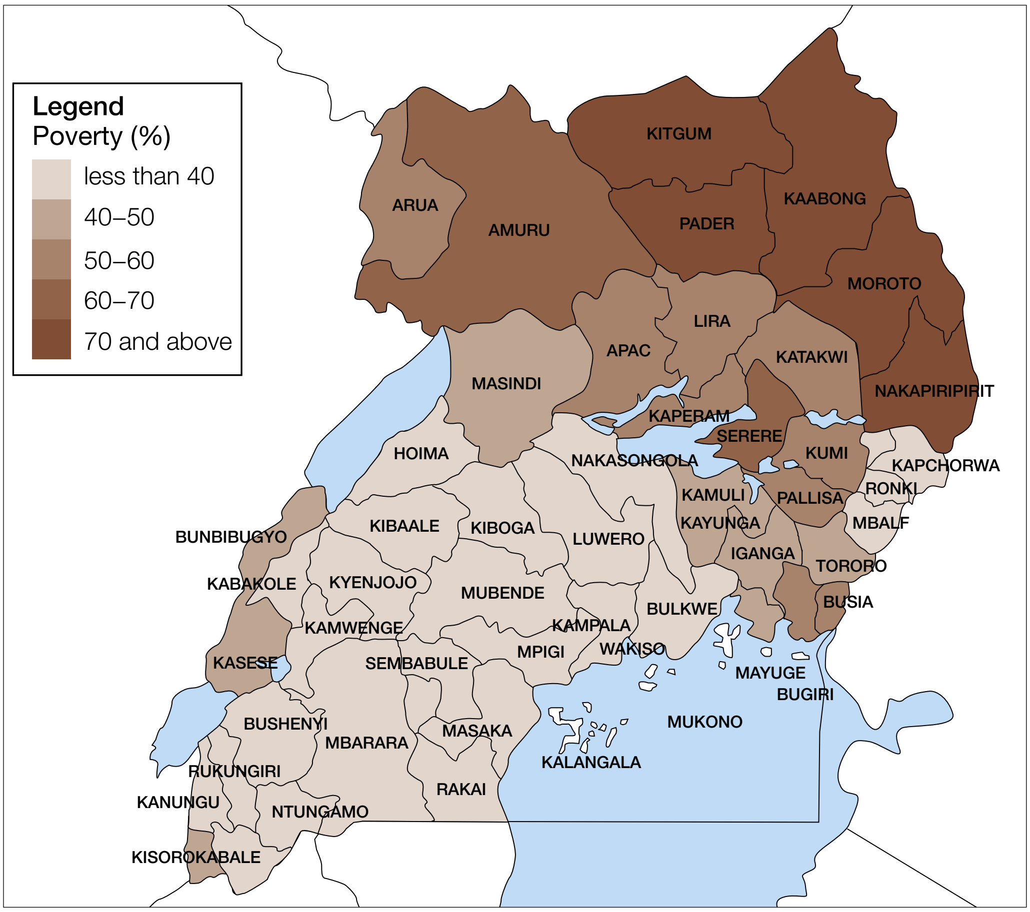
Corruption perceptions index: 140 of 177 countries rated.[17]

Human Development Index: 0.456 (2012), the 161st highest in the world of 187 countries rated.[18]

Quality of infrastructure index: 103rd out of 142 countries rated.[19]

14 OECD, *The DAC list of ODA recipients Factsheet*, January 2012.
15 United States Central Intelligence Agency, *The World FactBook*, 2014.
16 The World Bank, *Doing Business Rankings*, 2014.
17 Transparency International, *Corruption Perceptions Index*, 2013.
18 United Nations Development Programme, *Human Development Report 2013*. The Index measures development by combining indicators of life expectancy, educational attainment and income.
19 World Economic Forum, *The Global Competitiveness Report 2011-2012*.

Poverty map[20]



Source: World Bank

UK's contribution to total aid to Uganda

33 Total bilateral aid to Uganda was £621 million in 2011, of which the UK provided £89 million (14 per cent). In addition to bilateral aid, multilateral organisations provided an estimated £363 million of aid to Uganda.[21]

Uganda was the 13th largest recipient of UK aid in 2012-13.[22]

20 World Bank Policy Research Paper, *Uganda's Infrastructure: A continental Perspective*, Fig 3 p 8, 2012.
21 Department for International Development, *Statistics on International Development 2013* – tables, 2013.
22 Department for International Development, *Annual Report and Accounts 2012-13*, June 2013.

Overview of DFID's bilateral programme[23]

34 The DFID Uganda country programme highlights its vision in Uganda and prioritises investment in the following areas:

- health – improving the lives of women and girls, addressing malaria and HIV/AIDS;
- boosting wealth creation, addressing the constraints to growth;
- governance and security to underpin growth and maintain stability in an unstable region; and
- climate change.

35 DFID Uganda plans to reduce or withdraw funding from the following areas:

- budget support;
- agriculture;
- tax administration; and
- public sector reform.

36 It plans to deliver its programme through a mixture of direct provision, technical assistance and working with multilateral organisations. DFID is looking to identify new opportunities for joint bilateral programmes and closer working with other donors.

37 DFID has increased its focus in the north, in Karamoja region, to provide emergency support, and in the south and west, to cope with refugees from the Democratic Republic of Congo.

23 Based on NAO analysis of *DFID Uganda Operational Plan 2011–2015 – November 2013 update*; and draft Country Poverty Reduction Diagnostic (CPRD).

Infrastructure priorities for the country

38 In 2012, the World Bank stated that Uganda's infrastructure needed expenditure of around US$1.4 billion per year over the next decade.[24]

39 From our interviews in Uganda we found that:

- The power sector is considered a major constraint to business, being inefficient and unreliable. Power losses are high and businesses have to rely upon their own diesel generators. The sector has been restructured to make it more efficient and effective, but Uganda has one of the highest tariffs in East Africa. Although capacity has doubled, only 9 per cent of the population has stable access to power.
- The overall quality of major roads in Uganda is better than its neighbours, although it has a smaller proportion of good-quality roads. The quality of district roads is poor, maintenance is limited and the network is fragmented. Traffic density is high and congestion in Kampala very heavy, making journey times excessive.
- Like other East African countries, the railways are underutilised, the main usage being the cross-border line between Uganda and Kenya. There is no public transport system, apart from the use of mini buses.
- There has been a reduced reliance on untreated surface water and an expansion in use of stand pipes, wells and boreholes, but little increase in piped water and flush toilets.

DFID's approach to infrastructure

40 DFID Uganda told us about three ongoing infrastructure programmes, totalling £70 million:

- Trade Mark East Africa: Budget of £39.9 million, spend to date of £11.6 million, started 2009. Provides funds to strengthen regional integration and improve trade competitiveness in Uganda.
- CrossRoads: Budget of £18.8 million, spend to date of £7.6 million, started 2009. Provides funds to improve the efficiency of government spending on roads, increasing the capabilities and capacities of organisations involved.
- Get Fit: Budget of £11.1 million, spend to date of £1.1 million, started 2013. Provides funds to improve the environment for private investment in Uganda's renewable energy sector by supporting the construction of at least 15 on-grid small-scale power plants.

24 The World Bank, *Uganda's Infrastructure: A Continental Perspective*, 2012.

Overview of the PIDG programme in Uganda

41 In February 2014, PIDG had 11 'closed' projects and three projects 'in development' in Uganda (**Figure 6**). A further two PIDG projects in Uganda have been approved but subsequently cancelled.

Figure 6

Overview of PIDG Projects in Uganda visited by the National Audit Office

	Projects which have reached financial close			**Projects in development**		
	Number of projects	PIDG funds committed (US$m)	Predicted private investment commitment (US$m)	Number of projects	PIDG funds committed (US$m)	Predicted private investment commitment (US$m)
By sector (PIDG classification)						
Energy	6	57.6	190.4	1	0.6	25.0
Water, Sewerage and Sanitation	1	1.3	0.4	1	1.1	16.0
Telecoms	1	4.0	98.6			
Multisector	3	10.2	29.0	1	7.4	Not finalised
By PIDG facility[1]						
GuarantCo	2	2.8	0.0			
EAIF	6	62.7	273.4			
DevCo	1	1.3	0.4	2	1.7	41.0
InfraCo Africa	2	6.3	44.6	1	7.4	Not finalised
All Ugandan projects	11	73.1	318.4	3	9.1	41.0
Ugandan projects as a percentage of all PIDG projects	**10.4%**	**5.0%**	**1.1%**			

Note

1 Excludes TAF grants.

Source: National Audit Office analysis of PIDG data

42 We considered **six** of PIDG's projects in Uganda, representing US $69 million of PIDG funds committed (**Figure 7**). Two were related projects centred on Bugala Island in Kalangala, and we have therefore combined our review of them in **Figure 8** on pages 23 to 26.

Figure 7

PIDG Projects in Uganda visited by the NAO

- Kampala Waste Management PPP, $1.14m, 14:1 ✔
- Kalangala Infrastructure Services Project, $1.74m ✔✔
- Kalangala Infrastructure Services Project, $4.1m ✔✔
- Kalangala Infrastructure Services Project, $4.4m ✔✔
- Kalangala Infrastructure Services, $0.35m ✔✔
- Kalangala Infrastructure Services – OBA, $5.0m ✔
- Kalangala Infrastructure Project Resettlement Action Plan, $0.68m ✔
- Kalangala Renewables, $1.06m ✔✔
- Kalangala Renewables, $2.2m ✔✔
- Kalangala Renewables, $2.6m ✔✔
- Bugoye Hydro Plant, $31.7m, 2:1 ✔✔✔
- South Asia Energy Management x2, $20m, 5:1 and 6:1 ✔✔✔

☐ GuarantCo	✔ Under development	● Energy
☐ DevCo	✔✔ Financially closed	○ Water, sewerage, sanitation
☐ InfraCo Africa	✔✔✔ Post completion monitoring	● Multi
☐ EAIF	**x:1** Reported leverage (where data available)	
☐ TAF		

Source: National Audit Office analysis

Figure 8
PIDG Projects seen by NAO in Uganda

Project title	**Bugoye Hydro Power Plant** A run of the river hydro power plant for power generation	**Mpanga Small Hydro Power Plant** A run of the river hydro power plant for power generation	**Kampala Waste management** Developing an integrated solid waste management system
PIDG Facility	EAIF	EAIF	DevCo and TAF
Purpose of project and PIDG support	In 2008, EAIF lent US$32 million to support a project to construct a weir and canal to transport water to the 13 megawatt power generation facilities, turbines and transformers. Community and social responsibility projects are included. The project provides additional power to support the national grid as well as stabilising it. The Uganda Electricity Transmission Company purchases the power generated. Local transmission lines have since been added as part of the Rural Electrification Agency programme.	In 2010, EAIF lent $14 million to support a project to construct a weir, a canal to carry water to the 18 megawatt power generation plant and turbines and transformers. Community and social responsibility projects are included. The project provides additional power to support the national grid as well as stabilising it. The Uganda Electricity Transmission Company purchases the power generated. Additional transmission lines have been built to supply some of the local community with power.	The project provides technical support to assist Kampala City Authority to structure a comprehensive integrated solid waste management system, to include: ● waste collection; ● recycling and composting; ● landfill operations, including closure of the existing landfill and construction and operation of a new landfill; and ● use of landfill methane to generate electricity and carbon credits. DevCo was engaged by IFC to arrange and synthesise the legal, environmental and technical consultancy advice required in support of the bid process.
Financing	Total investment, comprising: ● US$31.7 million – EAIF; ● US$13.4 million – Trønder Energi ● US$8.9 million – Norwegian government grant; and ● US$6.3 million – NorFund.	US$14 million loan from EAIF and $8 million private investment.	US $1.14 million for DevCo plus US$3.0 million from TAF.
Location	The plant is sited in western Uganda in Kasese district on the River Mubuko. It is one of three small hydro power generation plants on this river. Villages surrounding the plant were affected by its construction, with 34 families relocated.	The plant is sited in western Uganda in Kamwenge district on the River Mpanga, before it flows into Lake George. There are no villages nearby.	The project covers all districts in Kampala City.
Year approved/ financial close	2008-09	2010-11	2012–2014
Total PIDG funding commitment	US$31.7 million	US$14.0 million	US$1.1 million
Total predicted private sector investment	US$56.8 million	US$88.0 million (this includes financing for power plants in Sri Lanka)	US$16.0 million

Figure 8 *continued*

PIDG Projects seen by NAO in Uganda

Project title	**Bugoye Hydro Power Plant** A run of the river hydro power plant for power generation	**Mpanga Small Hydro Power Plant** A run of the river hydro power plant for power generation	**Kampala Waste management** Developing an integrated solid waste management system
Key predicted development impacts	983,923 people receiving better services 500 short-term jobs	816,000 people receiving better services 250 short-term jobs	800,000 additional people served 500,000 people receiving better services
Position at the time of our visits	The power plant is operational, generating power and selling to the national grid. The corporate social responsibility programme is ongoing.	The power plant is operational, generating power and selling to the national grid. The corporate social responsibility programme is under discussion.	The bidders for waste collection were pre-selected in February 2014. The site for the new landfill has been purchased. The tender for the management of the existing landfill site and the new one is under development.
NAO comment on PIDG's role, additionality, development impact and demonstration effects	This was NorFund's first incursion into Africa, and in the power sector. EAIF was involved in putting together a financial package and was instrumental in the development and implementation of the project, reducing any delay resulting from changing sponsors. Researchers from the Overseas Development Institute estimated that, if the plant operated at full capacity, it could create up to 11,500 jobs, mostly due to increased electricity supply. The plant can be switched to serve the local area; this had often happened recently to help the local cement factory (a large employer) cope with power outages. However, generation has been consistently below target due to low water levels – averaging eight megawatts in the last three years. This is a risk to the project's claimed service impacts. It is difficult to assess the project's effects on poverty reduction because, like most power projects, output goes directly to the national grid. There is likely to be general benefit to Western Uganda and its rural electrification. There were few local electricity connections and when we visited many in the community lacked power. However the project has provided additional local benefits through its corporate social responsibility programme, including financial support to the health clinic, provision of water stand pipes and support to local schools. Community representatives praised the company's consultative approach.	Although experienced in this type of project in Asia, this was a first venture in Africa by the project sponsor. Power generated has been below target at an average of about 8 megawatts, mainly due to low rainfall. This is a risk to the project's claimed service impacts. Although the project has resulted in direct jobs during and after construction, wider benefits are difficult to quantify. Project managers have been slower to carry out corporate social responsibility activities than in the other hydropower project we considered. Despite the requirement for environmental impact assessments, the project owners had needed to reverse damage to rare cycad plants, following local criticism. While the funding decision was earmarked to the Ugandan project, EAIF also claims the private investment leveraged for the whole portfolio of projects – including 11 in Sri Lanka. It was not clear to us that this leverage claim was justified.	This is the first project of this type in East Africa and there is limited expertise and experience locally. The technology to extract methane from a landfill site is not new, but it will be a first for East Africa. The authority considered that IFC brought experience and expertise to the project, and was instrumental in ensuring the project progressed satisfactorily. If successful, the project should improve health in Kampala City and the ease of doing business. The improved management of the landfill should also provide an additional income stream for the Kampala city authorities. But some of the poorer communities who make a living from recycling could lose out. There are risks to the project in the limited number of sufficiently experienced contractors available to undertake this work. IFC had identified that the small local waste collectors could be involved and had helped to arrange an event, following which the collectors had formed an association and bid for the work. At one point the local collectors had threatened to strike over aspects of the bidding process. This could have had serious implications for Kampala, but the IFC had helped to avert it. The DFID country team were unaware of this when we raised it.

Figure 8 *continued*
PIDG Projects seen by NAO in Uganda

Project title	**Kalangala Infrastructure Services and Kalangala Renewables** Provision of road, ferry, solar power and clean water supplies for an island in Lake Victoria	**Nyamwamba Hydro Station (SEAMS)** A run of the river hydro power plant for power generation
PIDG Facility	InfraCo Africa, EAIF, GuarantCo, TAF	EAIF
Purpose of project and PIDG support	PIDG facilities provided a total of US $16.1 million of investment to develop transport and other utility services including: construction, operation and maintenance of two passenger and vehicle ferries; an upgrade of the island's 66 kilometre main road; development of a 1.6 megawatt hybrid power generation system; and construction of solar-powered pump-based water supply systems.	In 2012, EAIF lent US$6 million to construct a weir, and a canal to carry water to the nine megawatt power generation plant and provide turbines and transformers.

Financing	US$49.5 million total project investment in all elements of the project.
	• US$3.3 million from Nedbank
	• US$16.1 million from PIDG facilities comprising:
	  • US$ 6.3 million InfraCo Africa
	  • US$ 7.0 million EAIF
	  • US$ 2.8 million GuarantCo
		US $30 million – Total investment to build Nyamwamba hydro-power plant
		US $6 million additional approved by EAIF for the project

Location	These projects cover the Kalangala island group on Lake Victoria. The grouping comprises 84 islands, most of which are uninhabited. The ferry connection is to the largest island, Bugala, which is also the site for the infrastructure works.	The proposed site is in western Uganda in Kasese district on the River Nyamwambe, near the town of Kilembe.
Year approved/ financial close	2007–2014	2012–TBA
Total PIDG funding commitment	US$16.1 million	US$6.0 million
Total predicted private sector investment	US$44.6 million	US$30.0 million
Key predicted development impacts	35,000 additional people served 35,000 people receiving better quality of service 250 short-term jobs	587,850 people receiving better quality of service 250 short-term jobs
Position at the time of our visits	Ferry: One ferry is complete and operational and the second ferry is under construction, due to come into service in June 2014. Energy: One bank of solar panels is in place, with foundations started for the remainder. Construction of buildings holding the batteries, control and administration facilities is underway. Power generation project is due to come on line in June 2014. Water: Two pilot solar powered water delivery plants operational supplying clean water for sale. Roads: Land purchased for road and construction underway, with approximately one-third completed to date.	The funding has been approved by EAIF. The project is currently on hold, though sites for the power plant and the weir have been identified. The local community is being engaged in the development of the project.

Figure 8 *continued*
PIDG Projects seen by NAO in Uganda

Project title	**Kalangala Infrastructure Services and Kalangala Renewables** Provision of road, ferry, solar power and clean water supplies for an island in Lake Victoria	**Nyamwamba Hydro Station (SEAMS)** A run of the river hydro power plant for power generation
NAO comment on PIDG's role, additionality, development impact and demonstration effects	The project has four separate elements which on their own were not viable. InfraCo Africa was instrumental in bringing these together as one integrated programme, making it attractive to both the government of Uganda and private investors. This approach demonstrated the potential synergies from pooling the activities of more than one PIDG facility. All elements of the projects remain in development, but some benefits have already been realised. The free ferry gives workers easier access to employment and allows businesses to transport goods to and from the mainland. The provision of cheap, clean water will have significant long-term health benefits, although this is currently limited to only two villages on the island. A key beneficiary has been the island's main industry (palm oil). Improved transport links have facilitated its expansion by enabling workers to travel from the mainland and easing transport of products off the island. The project should help to reduce poverty levels; Kalangala has already moved from being one of the poorest districts in Uganda to one of the richest. The population of the district is small, at between 35,000 and 75,000, although it may increase due to better transport and economic growth.	The project is on hold as it is under consideration as part of DFID Uganda's GET FIT programme and is due to be assessed in the next tranche of projects. This potentially raises questions about the need for PIDG's investment. The River Nyamwambe has been the subject of debate, especially on the dangers of erosion and future flooding. In May 2013, the area was hit by a flood which caused severe damage and some loss of life. This instability could raise risks for the project's success. The expected generative capacity has been downsized from 14 to 9 megawatts.

NAO case study: Nigeria

Overview of country and DFID's aid programme

Key economic and other statistics

43 The Organisation for Economic Co-operation and Development's (OECD's) Development Assistance Committee (DAC) classifies Nigeria as a least developed country[25] and it is widely acknowledged to be a fragile state.

Population – 177.2 million (2014 est.)[26]

GDP – per capita estimates (purchasing power parity):[27]

- 2013: US$2,800, 180 highest in the world out of 229
- 2012: US$2,700
- 2011: US$2,600

GDP – estimated real growth rate:

- 2013: 6.2 per cent, 35 highest in the world of 220 countries rated[27]
- 2012: 6.6 per cent
- 2011: 7.4 per cent

Population below poverty line: The poverty rate is typically under 40 per cent in the south of the county, rising to more than 70 per cent in central Nigeria and higher in parts of the north (see map).

Ease of Doing Business index: 147 of 189 countries rated.[27]

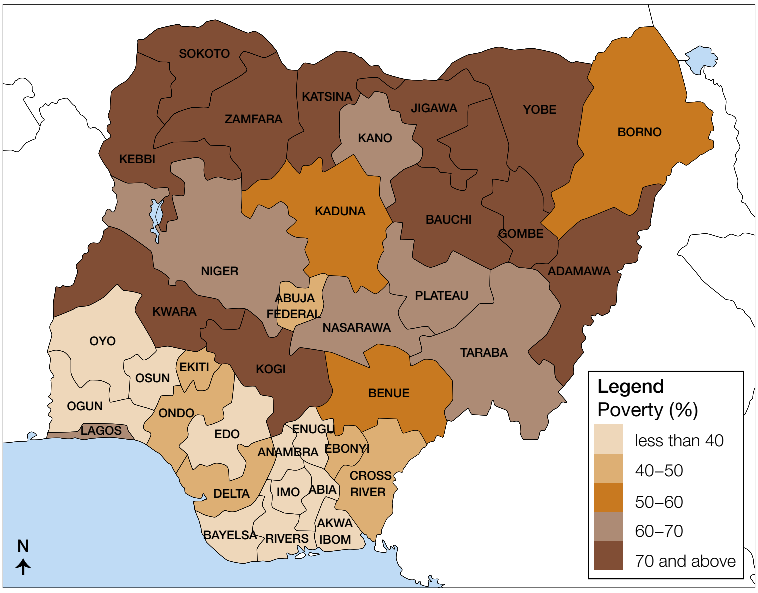
Corruption perceptions index: 144 of 177 countries rated.[28]

Human Development index: 0.471 (2012), 153rd highest in the world of 187 countries rated.[29]

Quality of infrastructure index: 125 out of 142 countries.[30]

25 OECD, *The DAC list of ODA recipients Factsheet*, January 2012.
26 United States Central Intelligence Agency, *The World FactBook*, 2014.
27 The World Bank, *Doing Business Rankings*, 2014.
28 Transparency International, *Corruption Perceptions Index*, 2013.
29 United Nations Development Programme, *Human Development Report 2013*. The Index measures development by combining indicators of life expectancy, educational attainment and income.
30 World Economic Forum, *The Global Competitiveness Report 2011-2012*.

Poverty map[31]



Source: African Development Bank

UK's contribution to total aid to Nigeria

44 Total bilateral aid provided to Nigeria in 2011 was £534 million, of which the UK provided £186 million (35 per cent). In addition to bilateral aid, multilateral organisations provided an estimated £570 million of aid to Nigeria. The UK is the largest bilateral donor.[32]

Overview of DFID's bilateral programme[33]

45 The DFID Nigeria country programme focuses on the following strategic priorities:

- wealth creation (or economic development);
- governance and security;
- education; and
- health, including reproductive and maternal health.

46 DFID has increased its focus on northern Nigerian states, which tend to have higher levels of poverty. For example, DFID reported in spring 2013 that it was to add three more northern states (Yobe, Katsina and Zamfara), to its existing five focus states of (Lagos, Enugu, Kaduna, Kano and Jigawa).

31 African Development Bank, *An Infrastructure Action Plan for Nigeria: Closing the Infrastructure Gap and Accelerating Economic Transformation*, 2013-14, pg 68.
32 Department for International Development, *Statistics on International Development 2013* – tables, 2013.
33 Based on NAO analysis of *DFID Nigeria Operational Plan – Spring 2013 update*; and draft Country Poverty Reduction Diagnostic (CPRD).

Infrastructure priorities for Nigeria[34]

47 In 2013, Nigeria's National Planning Commission noted that, at 35 to 40 per cent of GDP, its infrastructure stock is well below the international benchmark of 70 per cent.[35]

48 Our research and discussions in Nigeria identified that the following sectors were priorities:

- Power sector – considered by DFID as the biggest single constraint to business. The sector is inefficient, its cost recovery has been low and it supplies about half the power that is required. The government has embarked on a programme of reform, including privatisation.
- Roads – the poor quality of roads is a constraint on all business, including the agricultural sector which employs about 70 per cent of the Nigerian labour force. Poor road quality adds to the cost of agricultural inputs, reduces farm gate prices and increases the amount of crops that do not make it to market.
- Other transport – there have in recent years been improvements in the domestic air transport sector, but the railway system has suffered long-term decline and urban transport is dominated by small private operators, with few mass transit systems. Ports have been improved but problems remain.
- Water and sanitation sector – access to piped water is low and in 2011 the World Bank reported access levels had been declining.
- Irrigation development is low compared to its potential to increase the productivity of Nigerian agriculture.

DFID's approach to infrastructure

49 DFID Nigeria focuses on supporting the government to tackle barriers to infrastructure development rather than using bilateral funding to support particular infrastructure projects. DFID Nigeria has contact with other providers of finance for infrastructure projects such as the International Finance Corporation, the African Development Bank and PIDG.

50 Within DFID Nigeria's economic development portfolio, the largest programme supports infrastructure reform in Nigeria. The Nigerian Infrastructure Advisory Facility (NIAF) is in its second phase, which runs from 2013 to 2016 and has a £98 million budget. NIAF, which is managed by Adam Smith International, provides technical assistance to federal and state governments to improve infrastructure planning and implementation.

34 Sources: DFID Nigeria Economic Standing Briefing (hard copy only), *DFID NIAF Business case* (hard copy only), *World Bank 2011 AFDB report*, pg 12.

35 Nigerian National Planning Commission, *Financing infrastructure through the capital market*, 2013.

51 The main elements of the second phase are:

- supporting reform in the power sector;
- improving the effectiveness of government spending on roads; and
- preparing, packaging, prioritising, funding and implementing projects.

52 Other DFID programmes seeking to improve Nigerian infrastructure include:

- a project with other donors to improve the availability of mortgage finance and thus tackle one of the barriers to the growth of the housing sector;[36] and
- a project in development to use the International Climate Fund to assist the development of markets for solar energy in northern Nigeria.

Overview of PIDG's programme in Nigeria

53 In February 2014, PIDG had 9 'closed' projects and no 'projects in development' in Nigeria (**Figure 9**). One further PIDG project in Nigeria was approved but subsequently cancelled.

Figure 9

Overview of PIDG Projects in Nigeria

	Projects which have reached financial close		
	Number of projects	PIDG funds committed (US$m)	Predicted private investment commitment (US$m)
By sector (PIDG classification)			
Energy	2	15.5	441.4
Industrial Infrastructure	4	84.2	1,754.3
Telecoms	3	64.0	1,727.0
By PIDG facility[1]			
EAIF	7	149.0	3,472.7
GuarantCo	1	14.2	30.0
InfraCo Africa	1	0.5	420.0
All Nigerian projects	**9**	**163.7**	**3,922.7**
Nigerian projects as a percentage of all PIDG projects	**8.5%**	**11.1%**	**13.7%**

Note

1 Excludes TAF grants.

Source: National Audit Office analysis of PIDG data

36 The mortgage finance project is supported by the World Bank. DFID has also run projects to support the construction and real estate sector, for example, by improving the enabling environment.

54 We visited four of PIDG's projects in Nigeria (**Figure 10**). The Emerging Africa Infrastructure Fund (EAIF) had committed a total of US$54 million to three of these projects and GuarantCo provided a guarantee of US$14.2 million to the fourth.

Figure 10

PIDG Projects in Nigeria visited by the NAO

● Tower Aluminium Group, $14.2m, 2:1 ✔✔✔

● Tower Power Abeokuta Limited, $15m, 1.4:1 ✔✔

● African Foundries Limited, $20m, 6:1 ✔✔✔

● Helios Towers, Nigeria, $19m, 11:1 ✔✔

☐ GuarantCo

☐ EAIF

✔ Under development

✔✔ Financially closed

✔✔✔ Post completion

9:1 Leverage

● Energy

● Industrial infrastructure

● Telecoms

Source: National Audit Office analysis

Figure 11
PIDG Projects seen by NAO in Nigeria

Project title	**Tower Aluminium Group Ltd** New factory for an aluminium manufacturer	**Tower Power Abeokuta Ltd** New power plant for industrial customers
PIDG Facility	GuarantCo	EAIF
Purpose of project and PIDG support	The recipient had been adversely affected by the 2008 Naira devaluation which increased the cost of servicing its US$ liabilities incurred in financing a new factory. The factory produces a range of aluminium products, including roofing for low cost housing. The recipient decided to refinance by issuing a seven-year Naira-denominated corporate bond, thereby reducing its currency risk and extending the tenor of its debt. GuarantCo used its AAA credit rating in Nigeria to enhance the bond issue, making it eligible for pension fund investors.	The recipient wanted US$ finance to construct a 12 megawatt power plant to provide a reliable source of power for local industrial companies. However, US$ liquidity was limited due to the financial crisis. The recipient approached EAIF, which provided all external finance.
Financing	Total project financing US$30 million. GuarantCo has guaranteed US$14.2 million (47 per cent) of the debt.	Total project financing US$21.4 million of which: • Domestic equity US$6.4 million. • EAIF contribution US$15.0 million.
Location	Ogun State in southern Nigeria, but with aluminium products distributed throughout Nigeria.	Ogun State in southern Nigeria. Power plant supports local companies that distribute products throughout Nigeria.
Year approved/ financial close	2011 and 2012	2010 and 2011
Total PIDG funding commitment	US$14.2 million	US$15.0 million
Total predicted private sector investment	US$30.0 million	US$21.4 million
Key predicted development impacts	690,000 additional people served	2,000,000 people receiving better services
Position at the time of our visits	Factory is operational	Plant is operational.

African Foundries Limited New factory and power plant for a steel manufacturer	**Helios Towers** Expansion of telecommunication towers
EAIF	EAIF
Recipient wanted US$ finance to construct: • A 225,000 tonnes per annum steel mill capable of converting local scrap into high quality steel. • A 40 megawatt power plant to provide a stable and independent electrical supply to the plant. However, US$ liquidity was limited due to the financial crisis. The recipient engaged an international bank to arrange a financing package. The bank approached development finance institutions, including EAIF.	The recipient leases space on telecommunication towers, providing mobile and fixed wireless operators with an alternative to in-house ownership of towers. The recipient wanted to construct more towers, but felt there was insufficient long-term funding available in Nigeria. It used IFC to syndicate finance from development finance institutions, including EAIF.
Initial project financing totalled around US$125 million, of which development finance institutions provided US$65 million. EAIF's contribution was US$20 million. The contribution of EAIF and other development finance institutions was reduced when the recipient refinanced part of the project in 2013. It obtained new finance on preferential terms from a government-backed scheme.	Development finance institutions provided US$159.3 million. EAIF's contribution was US$19 million. In 2013 the recipient, having run into financial problems, agreed with EAIF and other financiers to restructure the project's financing.
Ogun State in southern Nigeria, but with steel products distributed throughout Nigeria.	The recipient's headquarters are in Lagos. Its towers are spread across Nigeria.
Both 2009	Both 2009
US$20.0 million	US$19 million
US$124.3 million	US$200 million
3,300,000 people receiving better services 500 short-term jobs 515 long-term jobs	7,500,000 people receiving better services 237 long-term jobs
Factory and power plant are operational.	The recipient has increased the number of towers, but at a slower rate than expected.

Figure 11 *continued*
PIDG Projects seen by NAO in Nigeria

Project title	**Tower Aluminium Group Ltd** New factory for an aluminium manufacturer	**Tower Power Abeokuta Ltd** New power plant for industrial customers
NAO comment on PIDG's role, additionality, development impact and demonstration effects	Without PIDG support, the recipient would have found it difficult to secure bond finance as it had been unable to identify others to guarantee losses. The size of the project's development impact depends on the numbers of poor people that purchase aluminium roofs. Aluminium roofs are more cost-effective in the long run than the steel alternative. The project could have wider economic benefits by increasing domestic competition for aluminium imports. The success of the project in assisting the development of the corporate bond market in Nigeria is unclear. The number and value of corporate bonds issued remains low. GuarantCo and TAF are aiming to address some of the barriers to bond market growth.	The recipient said it had found it difficult to raise US$ finance from sources other than EAIF. The project is unlikely to have a direct development impact on poor people as it supplies industrial users who had previously used diesel generators. But poor people may benefit indirectly from the products made by the industrial users, and from greater employment opportunities. The project has the potential to encourage others to commission small independent power projects. The project's demonstration effect, however, is not yet fully proven. It remains one of a small number of small-scale independent power producer projects realised to date in Nigeria.

African Foundries Limited
New factory and power plant for a steel manufacturer

EAIF and other development finance institutions provided long-term US$ finance which would have been difficult to secure from other lenders.

The power plant and factory directly benefit the people employed. The project could have substantial development impacts in lowering the costs of high-quality construction materials, making it cheaper to build new buildings and roads. It may also increase domestic competition for steel imports.

The demonstration effect of the factory depends on the company's commercial success, which relies on convincing purchasers of the quality of the steel it produces.

Helios Towers
Expansion of telecommunication towers

It is questionable whether EAIF funding was needed for the initial deal. The deal was oversubscribed, so most development finance institutions took around 80 per cent of their offer. However, EAIF may have played a more pivotal role in enabling the restructuring of the project's financing.

There are around 70 mobile phone handsets per 100 people in Nigeria. By improving the limited capacity of the telecom infrastructure in Nigeria, the project could therefore have widespread benefits. The company has towers throughout the country, but they are relatively more concentrated in richer states.

The Nigerian telecoms sector is now quite mature, though construction of more towers could lower entry barriers for smaller and new wireless operators.

NAO case study: Vietnam

55 As part of our work, we remotely reviewed an InfraCo Asia hydropower project in Vietnam. This drew on our examination of relevant project documents as well as discussions with DFID Vietnam, InfraCo Asia, the bank providing debt finance, the company which was originally running the project and the World Bank in Vietnam.

Figure 12
PIDG Projects seen by NAO in Vietnam

Project title	Coc San Hydro Project – hydro power station
PIDG Facility	InfraCo Asia Development and Technical Advisory Facility (TAF)
Purpose of project and PIDG support	This 29.7 megawatt hydro project is part of the government's plans for more hydropower to help meet Vietnam's increasing demand for electricity. The original developers were unable to secure sufficient debt finance to continue with construction due to the economic downturn. Since becoming involved in 2012, InfraCo Asia Development has: • provided finance to cover development and other costs; • contributed to the restructuring of the project and secured debt finance; and • secured a TAF grant to make the project financially viable so that projected revenues cover costs and give investors a reasonable return.
Financing	Total project cost of US$50 million of which PIDG is providing US$11.4 million. The remaining financing is to come from a mix of debt and equity. InfraCo Asia Development plans to raise capital of around US$15 million – possibly with the participation of its 'sister' facility, InfraCo Asia Investments of up to US$10 million.
Location	Lào Cai province in north-west Vietnam – one of the poorest provinces.
Year approved/ financial close	2012 for InfraCo Asia Development and 2013 for TAF grant. Financial close is expected in 2014.
Position at the time of our study	Construction is underway; the plant is due to be operational at the end of 2015.
Total PIDG funding commitment	InfraCo Asia: US$7.6 million TAF: US$5.0 million
Total predicted private sector investment	US$45.0 million
Key predicted development impacts	130,000 people receiving better quality of service 500 short-term jobs

Figure 12 *continued*
PIDG Projects seen by NAO in Vietnam

Project title	Coc San Hydro Project – hydro power station
NAO comment on PIDG's role, additionality, development impact and demonstration effects	The Coc San project was the first to apply for a viability grant. TAF's review concluded the project was unlikely to be financially viable without a grant. However, the amount required was difficult to assess because costs are uncertain. To try to reduce the risk that too much grant is paid out, the agreement requires the project to provide further information at financial close and allows TAF to reduce the grant under certain conditions. For TAF to approve the grant, donors were asked to waive their rules on: ● the maximum value of a grant, since the limit had been set at $3 million; ● targeting grants at low income countries, since Vietnam recently graduated to middle income status; and ● grants having pro-poor benefits by making services more affordable, since the project will benefit poor people by improving the reliability of electricity supply but it will not reduce electricity prices. Without PIDG support, the hydro plant would probably have remained stranded because the original developers could not raise finance from elsewhere. However, there are a number of similar stranded hydro projects in Vietnam, including in Lào Cai province. The project may demonstrate to banks and developers that hydro projects can be successfully developed. However, there is a risk that the TAF grant creates a perception that such projects need a subsidy to be viable.

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