

Mainstreaming gender equality to improve infrastructure development impact

PIDG Independent Study

PIDG Summary and Response

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The Private Infrastructure Development Group's (PIDG) purpose is to combat poverty in the poorest and most fragile countries through pioneering infrastructure to help economies grow and change people's lives.

Measurement of PIDG's development impact is integral to this in two ways:

1. Accountability

PIDG must provide robust evidence to account for and justify the use of public funding. In this, PIDG is accountable to its Owners, host Governments, and the communities it seeks to serve.

2. Learning, improving and demonstrating

Impact measurement provides PIDG with data that can be used to improve performance and guide our strategy. Sharing knowledge with the wider market also supports PIDG's work to crowd in more investment and promote effective models for infrastructure in low-income countries.

We view independent reviews and evaluations as particularly important tools for accountability and learning. Independent reviews are intended to provide PIDG, our Owners, and other stakeholders with a fresh and objective view on areas of critical importance to PIDG's strategy for delivering positive impact. Independent reviews are advisory, and do not represent PIDG policy, strategy or results reporting.

PIDG is determined to promote and advance gender equality and women's empowerment, both through our work in low-income countries and at a corporate level.

Improving outcomes for women and girls is fundamental to PIDG's mission to improve infrastructure for economic development and poverty reduction. Poverty and marginalisation are disproportionately experienced by women and girls. Improving women's participation in the workforce leads to major gains in productivity and growth, and infrastructure projects that don't address the needs and concerns of women are at greater risk of failure.

This report builds on a recent review of how gender outcomes are considered and measured by InfraCo Asia, to assess gender risks and opportunities in energy, telecommunications and transport infrastructure.

We will use the knowledge from this review to pilot a gender empowerment framework with a selection of PIDG projects in 2018 and 2019. This will assess whether projects do the 'minimum', are 'empowering' or, at the highest level, 'transformative', and find practical steps to improve project contributions to gender equality. This could mean, for example, smarter and more inclusive community consultation, better training and recruitment practices, or redesigned services to better meet the needs of women as consumers.

We will also publish this framework and share lessons from our initial pilots in 2019.



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EXECUTIVE SUMMARY

Gender relations, social norms and values often set unequal parameters for men and women's (differentiated) access to the use of, and control over, infrastructure services and facilities. Indeed, women are frequently found to benefit less than men from infrastructure, and are sometimes negatively impacted by the "gender-blind" infrastructure projects. Infrastructure development is not gender-neutral, and infrastructure interventions do not automatically result in inclusive growth. Infrastructure stakeholders, including PIDG, can benefit from designing gender-responsive infrastructure projects. Lessons learned from leading Development Finance Institutions (DFIs) and others illustrate a clear business case for institutionalizing efforts to mitigate gendered risks and catalyse positive impact for women as stakeholders, workers and end-users in infrastructure projects. This report provides a summary of evidence and case studies highlighting that while women's empowerment is important in its own right, a focus on women's empowerment in infrastructure developments can further enhance the effectiveness and sustainability of infrastructure investments.

This report presents a review of gendered risks and opportunities in infrastructure development cutting across three key sectors in which PIDG operates – energy, transport and telecoms.

Summary findings:

- **Consultation is key.** Consultative processes that recognise the needs and wants of both women and men are found to improve the performance and sustainability of infrastructure projects. For example, consulting women can help businesses to reach an untapped segment of the market by identifying and incorporating gender concerns into project design and implementation. Infrastructure investment projects run the risk of underestimating and underserving female infrastructure consumers when there is poor understanding of differences in women and men's infrastructure needs and preferences. Moreover, gender-unaware infrastructure interventions may reinforce gendered inequalities and stereotypes and even have negative impacts on women. In order to reduce these risks, projects should include exercises to map gender relations underpinning women and men's access to, and use of, infrastructure.
- **Construction jobs are an important focal point for gender impact.** The construction of energy, transport and telecoms facilities yields new opportunities for women's empowerment through infrastructure works for women as both skilled and semi-skilled workers. However, once employed in a male-dominated industry, women can be subject to sexual harassment, gender-based violence and discriminatory gender norms and stereotypes that effectively reduce their welfare.
- **Focusing on women's specific needs as users of infrastructure** - energy, transport and mobile facilities - could help advance women's empowerment, while at the same time expanding product acceptability, which presents sizable market opportunities for private developers. Neglecting women's needs and priorities as users of energy, transport and mobile services could reinforce pre-existing gendered inequalities hindering women's access to, and benefits from, infrastructure projects.



Based on the above-mentioned findings, the report proposes the following key routes to gender impacts for PIDG:

- **PIDG should ensure that women and girls are consulted at all stages of the project cycle** in order to identify potential gendered risks and design prevention/mitigation strategies. By conducting gender-responsive consultations throughout any given project cycle, companies, PIDG included, can gain valuable insights into elements such as women's preferred location for energy, transport or telecoms infrastructure facilities. This in turn can increase the number of people able to fairly and equitably access and use infrastructure services and facilities provided by PIDG and its partners.
- A key route to gender impact for PIDG, implemented by other DFIs and IFIs (WBG, ADB) and development agencies (USAID), is to **promote the recruitment and training of women in the infrastructure workforce**, both as skilled and semi-skilled workers. One way to do this is to set specific targets to develop women's working skills and employment opportunities. A possible entry point to ensure project developer compliance is to include gender-specific recruitment requirements in the corresponding contracts.
- There are substantial opportunities to advance women's empowerment by **championing women as mainstream consumers of off-grid energy or mobile services**. Likewise, PIDG can bridge gendered mobility gaps by promoting the use of intermediate means of transportation (IMT) when constructing long-distance roads.

Potential co-benefit gains between gender equality and infrastructure are often difficult to discern without proper tools, policies and strategies. In this regard, the report provides a brief overview of mainstreaming methodologies and approaches used by the World Bank Group, the Asian Development Bank and the Global Environment Facility to incorporate gender into their operations in sectors and regions relevant to PIDG's facilities. More specifically, the report provides a review of the institutional framework developed by the listed DFIs to address gender concerns (WHAT?); their main motivations to mainstream gender (WHY?); the key tools and activities used to operationalise gender mainstreaming policies (HOW?); and a summary of the main results achieved per sector.

Findings from this section are:

- A key strength of the reviewed approaches is the use of ex-ante categorization systems/gender markers to develop gender responsive projects at a design stage and keep track of the gender components in an effective manner.
- A key weakness is the insufficient quality of monitoring reporting throughout the entire project cycle, and its effects on gender results delivery. Other areas with large scope for improvement are capacity building and sufficient allocation of financial and human resources.

In conclusion, this report reveals considerable opportunities for PIDG to create synergies between gender considerations and profitable and efficient infrastructure investments.

1. Introduction: Why gender and infrastructure?

The gender dimensions of access to employment, services and benefits, as well as exposure to risks, are increasingly being identified as important factors for consideration in effective infrastructure project design and implementation. The literature indicates that men and women have differentiated access to the use of, and control over, infrastructure facilities and services. Indeed, women are often found to be benefit less than men from infrastructure, and are sometimes negatively impacted as a result of infrastructure developments. In this respect, infrastructure development is not gender-neutral. There is now also wide recognition that infrastructure interventions do not automatically result in inclusive growth. Yet gender remains a largely neglected aspect of infrastructure planning and provision, and a large number of infrastructure projects are still found to be gender-unaware, based on the assumption that women and men will benefit equally.

Nevertheless, more and more infrastructure actors, such as the World Bank and the Asian Development Bank (see section 6) are now mainstreaming gender into their infrastructure projects. Through gender mainstreaming, these actors seek to better understand how gender norms and relations that prescribe what women and men can and cannot do in households, communities and labour markets may shape project implementation and benefits. Gender mainstreaming, if done right, can enable these actors to effectively identify and address gender-based disparities throughout the project cycle. As such, well-designed and gender-aware infrastructure projects and investments can be a powerful tool in the pursuit of gender equality, as these projects can provide women (and men) with access to expanded opportunities to improve their livelihoods.

Moreover, several development finance institutions (DFIs) have in recent years argued that gender-aware infrastructure development not only increases women's opportunities and empowerment but also enhances project effectiveness, efficiency and sustainability. For example, the World Bank Group (WBG), the Asian Development Bank (ADB) and the International Finance Corporation (IFC) have all emphasised that infrastructure projects are more effective in reaching their objectives when they take into account gender equality and women's empowerment (e.g. in relation to the number of end users who successfully adopt off-grid energy solutions) (see for example World Bank, 2010 and ADB, 2015).

This report takes this discussion further, presenting gendered risks and opportunities in infrastructure development and pointing to key routes to gender impacts of relevance to PIDG and its operations. It also provides specific examples of how selected DFIs have integrated gender considerations into their policies and project cycles. As such, this report draws on recent experiences from DFIs and their efforts in mainstreaming gender in infrastructure projects. It aims to consolidate this knowledge and to present the next step for PIDG in going from recommendations to implementation on its 'gender journey'.

2. Our approach

2.1. Objective

The main objective of this report is to identify general gendered risks and opportunities that come with infrastructure investments that are relevant to PIDG's operations. The report focuses on the geographies (Sub-Saharan Africa and South-East Asia) and infrastructure sub-sectors (energy generation, energy transportation and transmission, transport and telecommunications) selected by PIDG. We also highlight how some of these risks could potentially be countered and opportunities be seized, and the report aims to inform PIDG on why gender matters in infrastructure investments. As such, the report will provide PIDG with initial suggestions as to how to gender mainstream its operations.

We define gendered risks as potentially harmful consequences of actions, interventions and investments in the lives, bodies and businesses of women. Gendered risks may exacerbate gender inequalities in relation to decision-making (e.g. over resources, time), employment and entrepreneurship opportunities and access to infrastructure facilities. For instance, the security concerns of women and girls differ from those of men and boys. When these are not integrated into the project design¹ of an investment the investment cannot guarantee women's freedom from violence. A project that does not adequately address the specific security issues faced by women and girls may increase the risk of violence and sexual harassment. Understanding and addressing gendered risks is critical to ensure infrastructure projects do not have negative impacts on women and girls.

On the other hand, we refer to gendered opportunities as the creation of more and/or better conditions for women to improve their lives and those of others, their employability and their businesses (on equal terms with men). Identifying and addressing gendered opportunities offer benefits that can be leveraged to improve women's employment opportunities, livelihoods and social status. Throughout this report, we therefore highlight how infrastructure projects can advance women's empowerment. For example, the information and communication technology (ICT) sector offers opportunities for gender-responsive projects by specifically targeting women's employment and training.

Furthermore, this report identifies a number of gender mainstreaming initiatives of other multinational, regional and national DFIs. We screen and present best practices and lessons learnt of these different DFIs. Based on the above and in close cooperation with PIDG, we present a possible next step on a 'gender journey' with regard to how PIDG can integrate gender in the different steps of an investment cycle. This report provides the basis for PIDG's gender journey, and starts to define goals and motivations in relation to why, where and how PIDG can mainstream gender in its operations.

2.2. Approach

We take the following approach: 'Gender' is not another word for 'women' but rather refers to a concept that describes all the different socially constituted roles, relations and relative value and power that a particular society assigns to men or women. For the purposes of this review, we focus only on the linkages between infrastructure development and women's empowerment. Indeed, given that women are usually

¹ Through proper consultation and corresponding safeguard measures.

in a disadvantaged position compared with men in the context of infrastructure development and utilisation, promotion of gender equality through infrastructure projects implies explicit attention to the specific risks and opportunities women face.

While men are often assumed to be automatically involved in infrastructure projects (as stakeholders, workers, and end-users (or 'beneficiaries')), infrastructure policy and practice often excludes women's needs, views and participation (AfDB, 2009; Nelson and Kuriakose, 2017). We depart from the notion of 'women' as a homogenous group, often characterised as being vulnerable and 'the poorest of the poor'. This report recognises that women play different roles along infrastructure value chains. To capture the diversity of women's engagement in the energy, transport and telecom sectors, the subsequent sections refer to women as stakeholders, workers, and end-users (or 'beneficiaries'). These groups are not mutually exclusive. However, each group offers key insights as to how women may face varied gender risks and opportunities from their different involvement in, or exclusion from, infrastructure projects.

- **Women as stakeholders:** Decisions made in the infrastructure sector at all levels greatly affect women's lives. Yet women are rarely recognised, or included or consulted, as stakeholders in decision-making processes related to infrastructure development. It is important to address the absence of women as stakeholders in consultations, because 'when women are excluded as stakeholders, women lose the opportunity to share their knowledge, advocate for their needs and rights and prioritize policies and action that are gender-inclusive' (Prebble and Rojas, 2017, p. 10). As such, this report builds on the premise that women's participation and leadership are key to the successful implementation of infrastructure projects in a manner that benefits PIDG and women's empowerment (see Box 1 and 2).
- **Women as workers:** Women are still a minority in the infrastructure workforce, particularly among staff with a technical background (engineers) and in management (leaders). By removing existing barriers to women's employment in infrastructure, companies can benefit directly from women's talents while also directly promoting women's economic empowerment.
- **Women as end-users:** Infrastructure investment by itself does not result in inclusive growth. Social, political and economic structures may hinder women's access to, and utilisation of, infrastructure (such as electrical grids, roads or digital services). Studies from Africa, among others, show that women-headed businesses generally face more barriers than men's in accessing grid electricity, as well as delays in obtaining electrical connections. Failure to consider gendered electricity challenges, needs and preferences can greatly impede the effectiveness of energy programmes seeking to increase women and men's access (UNDP, 2012).

2.3. Definitions

Gender mainstreaming

Based on the definition set forth by Glemarec et al. (2016), this report sees gender mainstreaming as the process of assessing and responding to the differentiated implications, both negative and positive, for women and men of any planned infrastructure intervention. Gender mainstreaming entails that gender equality considerations are included and assessed throughout entire project cycles to enhance the effectiveness of any given infrastructure intervention, from project design to M&E.

The degree to which gender considerations can be integrated into project cycles varies along a three-part continuum. Projects can be gender-unaware, gender-aware or gender-transformative (Danielsen and Wong, 2014). Gender-unaware projects do not consider gendered realities' impact on development outcomes. Gender-aware projects acknowledge women and girls' particular needs and develop strategies to address them. Gender-transformative approaches challenges 'women's and men's gender roles and relations' (Amaia, 2009; Allison, 2013). This report highlights how other DFIs have moved along this continuum, with a focus on gender-aware projects.

Women's empowerment

This report highlights routes to gender impact by analysing how investments in the energy, telecom and transport sectors can promote women's empowerment as stakeholders, workers, and end-users (or 'beneficiaries'). In relation to women's empowerment, we refer to improvements and transformations in women's agency and decision-making in terms of access to, and utilisation of, infrastructure. Indeed, our focus is on showcasing how gender-aware infrastructure projects can enable women to access expanded opportunities to improve their livelihoods.

Women's empowerment is both a right in itself and a strategy to improve the capacity of women to participate in, and contribute to, economic growth processes in ways that recognise the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth (Eyben et al., 2008; Golla et al., 2011; OECD, 2012).

2.4. Data collection methods

Data for this report was collected through a literature review and semi-structured interviews.

Literature review

A review based on principles set forth by Baumeister and Leary (1997) was employed to survey the state of relevant knowledge on gender and infrastructure. The parameters of the literature review were decided on in close consultation with key staff from PIDG. During the consultations, it was agreed that the scope of the report would encompass knowledge on gendered risks, opportunities and routes to impact in selected geographies and infrastructure sub-sectors relevant to PIDG.

In order to capture the most relevant and cutting-edge knowledge on gender and infrastructure, the review surveys both grey and peer-reviewed literature. The grey literature consists mostly of reports published by leading DFIs.

Semi-structured interviews

We conducted four semi-structured interviews with key informants: Joe Shamash (Evaluations Manager, Central Management Office, PIDG), Alice Chapple (Head of M&E, PIDG), the gender expert from DFID and the gender expert from DFAT. An interview framework with general themes and questions was developed to guide the semi-structured interviews. The interviews took between 30 minutes and an hour and were conducted through Skype.

2.5. Limitations

Gender dimensions of infrastructure development vary across social, cultural, economic and political contexts. This report presents a high level summary based on a review of the literature that focuses solely on the linkages between infrastructure development and women's livelihoods and employment in selected geographies and sectors. Furthermore, much of the literature on gender and infrastructure used in this report is published by DFIs with operations similar to those of PIDG. While the grey literature often refers to findings presented in peer-reviewed journals, it is important to acknowledge the potential for subjectivity and bias in the way these findings are presented.



3. Gender risks, opportunities and routes to gender impact in infrastructure projects

3.1 Cross-sector summary

The following section outlines key gendered risks and opportunities, as well as routes to gender impact in infrastructure projects. The section starts by presenting gendered risks and opportunities cutting across the four infrastructure sub-sector that are the focus of this report. Thereafter, for each sub-sector, the report presents evidence of risks and opportunities specific for women as stakeholders, workers and end-users. These risks and opportunities will be exemplified through case studies.

3.1.1 Women as stakeholders, and end-users

Women often have different energy, transportation and ICT needs and preferences compared with men, as both consumers and entrepreneurs, and as workers. However, without a proper understanding of these differences, infrastructure investment projects risk underestimating and underserving female consumers. Moreover, gender-unaware infrastructure interventions may reinforce gendered inequalities and stereotypes, and even have negative impacts on women (Box 1). On the other hand, a focus on gender can support project viability, as well as promote women's empowerment. For example, ILO (2010) in relation to gender and infrastructure states that 'a gender focus can substantially improve the performance of community works projects, improve the longevity and maintenance of the asset, increase household well-being and children's schooling and stimulate women's empowerment at little or additional cost' (p. 4).

Many DFIs are now taking measures to ensure infrastructure design and implementation adequately address gender concerns through inclusive consultation practices at various stages of infrastructure works (see section 5.1 on DFI and gender journeys). Consultation practices that engage with both women and men throughout a given project cycle can improve project performance in general, as well as delivering on gender related objectives. This is a key route to positive gender impacts for PIDG.

3.1.2 Women as workers

Women have traditionally been underrepresented in the infrastructure workforce, and they are often excluded from infrastructure employment opportunities merely because of their gender. According to IFC's Development Outcome Tracking System, in 2011 a mere 35% of its infrastructure clients employed women. In many contexts, professions that involve the design, management and construction of infrastructure are heavily dominated by men and seen as a male domain. However, the management and construction of energy, transport and ICT facilities is yielding new opportunities for both women and men to enter the formal labour market as contractors and semi-skilled and skilled workers.

Investments in infrastructure present employment challenges for women, as the construction of infrastructure may confine women to more intermittent, less well-paid positions. Moreover, gender-based violence and sexual harassment can be commonplace in infrastructure workplaces that do not actively implement and monitor policies and mechanisms to address this. As such, it is important not to assume that women benefit equally from the same employment opportunities as men. In this regard, case studies

(presented in boxes throughout the report) illustrate that specific efforts are needed to address the social and institutional barriers to women’s equal employment benefits in the infrastructure labour force.

3.2. Energy generation, transmission and distribution

3.2.1 Women as energy stakeholders

By conducting gender-aware consultations throughout any given project cycle, companies can gain valuable insights into elements such as preferred methods for delivering electricity systems for entire consumer markets (not just men), how companies can design effective communications about new energy systems targeting preferred consumers, where to construct energy infrastructure and how to price the new systems, and how to manage displacement effectively and in line with essential standards. For example, O’Dell et al. (2014) argue that including women in the planning stages is particularly important for electricity projects, since the energy sector has traditionally been male-dominated and tended to overlook gendered energy needs and preferences. As such, women’s equal participation in the design, implementation and monitoring of energy interventions can greatly increase the rate of clean energy technologies female users adopt (Morris et al., 2015)

In this regard it is also important for DFIs to understand how the construction and operation of large-scale renewable energy (such as dams for hydropower) can affect women and men differently, especially when entire communities have to resettle (see Box 2). For instance, do women benefit on equal terms when it is male landowners who are compensated for displacement? Does large-scale energy infrastructure destroy biomass energy sources that women rely on for income and food security?

Box 1: Male-dominated decision-making process on electrification in Zanzibar and Zambia

A Norwegian Agency for Development Cooperation (Norad)-supported intervention introduced electricity in Zanzibari villages from 1986 onwards. Although the project strategy included a gender focus and specific interventions targeting women, a study conducted by Winther (2012) found women were effectively excluded from planning and implementation of the project because of their lack of representation in village administrative and spiritual institutions. Winther highlights that the male-dominated decision-making process on electrification resulted in female institutions important to women’s productive enterprises (i.e. kindergarten and grinding machine) not being included as targets for electricity supply, despite being close to the electricity grid. Institutions important to men, such as mosques and a fish market (where men gathered), were connected. This example underscores the need to pay close attention to **who** has decision-making power in a given project, as gender-unaware energy interventions can adversely affect women and favour already privileged groups in a community.

Moreover, a study focused on energy and rural development in Zambia found few women were involved in the energy sector at the policy formulation level, and gender considerations were not included in modern energy sectors in the country, despite attempts to incorporate gender issues in the wood fuel sub-sector. The study found projects that included gender considerations at the design stage were more successful than those deemed gender-unaware (achieving higher levels of end user acceptability, purchase of electronic equipment, initiation of income-generating activities and increased input and output in entrepreneurial activities) (Cecelski, 2004).



Box 2: Ensuring effective consultation in resettlement through gender balanced community representation

The Song Bun 4 Hydropower Project (SB4) in Vietnam commenced in 2010 with the objective of meeting the growing demand for electricity in the country and reducing dependency on fossil fuels. It received financing from several multilateral financial institutions, including the Asian Development Bank (ADB). ADB, recognising that large hydropower projects often involved significant resettlement impacts, helped set up a Resettlement and Ethnic Minority Development Plan (REMDP). Previous evaluations of hydropower projects supported by ADB had identified several gendered challenges in project planning and implementation, especially in contexts where displacement can exacerbate existing inequalities between women and men.

Through the REMDP, a consultation strategy and methodology for SB4 were developed. The consultation strategy outlined the importance of consultation with women and highlighted potential gendered issues with planned consultations. The REMDP encouraged women, and others, to raise their concerns related to the project, and women's participation in project design and implementation was formalised at the community level through the formation of women's groups and the creation of village resettlement development groups composed of at least 50% women. As such, through the project, women played a key role in project design and were able to clearly express their own needs and preferences, especially related to relocation planning.

Source: ADB (2014).

3.2.2. Women as energy sector workers

Women are often excluded from power sector employment opportunities (Cain et al., 2016). Figures from UN Women show that, globally, women make up only 6% of technical staff, 4% of decision-makers and just 1% of top management in the fossil fuel-based sector (Baruah, 2017). Recent studies have illustrated that employment in the energy industry is male-dominated worldwide. This gender imbalance in employment is also seen in the renewable energy sector, where women only account for 20-24% of total jobs (Marcos, 2014). The International Renewable Energy Agency (IRENA) (2013) has identified several barriers to women's employment in the energy sector (see Box 3), and argues that removing barriers to women's participation in the sector is necessary to meet the growing demand for skills in an expanding industry.

Box 3: Three common barriers to women's advancement as employees in the energy sector

Self-perception: Experience from India provides an idea of how women perceive themselves in technical and engineering fields. A study with the objective of discerning why women in the construction sector have not been able to acquire skills for higher-paid masonry work found 'a shared belief (among men and women) that women construction workers are unfit to be trained like men in the sector even though they have the necessary skills, capability and desire to become masons' (IRENA, 2013, p. 113).

Mobility: The locations of large renewable energy construction projects are determined in part by the geography of natural resources and are often in isolated areas, which means special accommodation for staff and workers and long absences from families are required. In rural areas of developing countries, women often face mobility constraints owing to social responsibilities (such as care-giving) and traditional norms, thereby limiting their participation in activities that require relocation or travel.

Skills: In the energy sector, there is often a lack, especially among women, of the technical and business skills that are necessary for renewable energy employment.

Source: IRENA (2013).

Hence, a potential route to gender impact for PIDG and other DFIs is to increase women's direct employment opportunities in energy infrastructure interventions (e.g. manufacturing of components, project preparation, construction), both as highly skilled professionals and as semi-skilled workers. Indeed, in its flagship report on gender and energy (2015), ECOWAS clearly states that energy interventions must recognise the energy sector as a job provider and an income-generating avenue for women's economic empowerment and poverty eradication. Yet Nelson and Kuriakose (2017) argue that 'specific efforts are needed to address the social and institutional barriers to women's entry into "non-traditional" employment particularly in medium and large, grid-connected renewable energies' (p. 4).

Once employed, for example in the construction of energy infrastructure, women can be subject to sexual harassment, gender-based violence and discriminatory gender norms and stereotypes that effectively reduce their welfare (Warren, 2009; IRENA, 2013; Mohun and Biswas, 2016; Nelson and Kuriakose, 2017). Studies looking at male-dominated industries in high-income countries highlight that 'senior leadership teams that are dominated by men set the tone for talent management norms that allow masculine stereotypes to influence promotion and development opportunities' (Warren, 2009). These findings are echoed in developing countries (Danielsen, 2012; Baruah, 2017; Nelson and Kuriakose, 2017). Initiatives

Box 4: Engendering Utilities programme – lessons learnt from Nigeria and Uganda

The US Agency for International Development's (USAID) Engendering Utilities programme aims to increase professional opportunities for women in the energy distribution sector by analysing selected utilities' labour practices, as well as identifying ways of recruiting and retaining women in the workforce. The programme is built around the premise that, by improving labour market participation by women, power sector utilities can increase operational efficiencies that will ultimately bring greater economic value to energy companies, while simultaneously advancing women's empowerment. The programme is currently being implemented in partnership with seven utilities in five different countries, including Kenya and Uganda. Together with the partner utilities, USAID has identified a series of collaborative interventions tailored to each utility that are designed to improve human resources, pay equity and leadership opportunities for women, among others.

A recent study commissioned by USAID sought to evaluate the programme and to generate knowledge on the 'role of women within electric power distribution companies (DISCOs), and the gender disparities in this segment of the energy sector' (Cain et al., 2016). It found that, although women occupied diverse jobs at all management levels, they made up only 13% of the workforce in the 13 utilities studied. Even though the study found gender gaps in employment in all the DISCOs analysed, it cautioned practitioners against coming up with a 'one-size-fits-all' solution to mitigate gender disparities in the energy sector workforce. On the contrary, it is vital to gather specific gender data relevant to the utility in question in order to design



context specific strategies, policies and programmes able to effectively address gender issues. This is important, because the study in question revealed that women work in diverse jobs at all management levels, alongside men who are their counterparts within the DISCOs. Jobs occupied by men in one utility were found to be more “feminized” in another utility, and jobs traditionally staffed by women may be held by men elsewhere.

The Kenya Power and Lightning Company (KPLC) started gender mainstreaming activities in 2008, in addition to establishing a Gender Committee. KPLC conducted a gender baseline study that provided a company-specific roadmap to identify the various interventions required to ensure KPLC became gender-mainstreamed. As a result of the baseline study, KPLC developed a Gender Mainstreaming Policy, Sexual Harassment and Discrimination Policy and Equal Opportunity Policies.

Another example from Nigeria illustrates how two private DISCOs (Eko electricity Distribution PLC (EKEDP) and IBADAN Electricity Distribution Company (IBEDC)) face different gender issues that require different measures to target women as workers. For example, Cain et al. (2016) found that IBEDC especially struggled to recruit women, especially for rural positions. This is important since the company covers a much broader geographic area than EKEDP. Hence, IBEDC recruitment strategies should have a strong emphasis on how the company can overcome challenges faced by women wanting to work in IBEDC’s business hubs located in rural, remote areas. Such a strategy should be different from for example EKEDP’s recruitment strategies targeting a more urban labour force, as working in IBEDC rural business hubs poses location specific challenges for women.

Although Cain et al. (2016) do not provide specific empirical data on the positive (and negative) implications of increasing the professional opportunities for women in the energy distribution sector, the development hypotheses of the report suggests “that improving gender outcomes in utilities will help improve the fiscal performance of companies and allow women to contribute to the energy sector in more meaningful ways”. (Cain et al., 2016). This hypotheses is supported by evidence of specific benefits to projects when women are employed in construction and infrastructure. However this evidence is scattered, and there are few systematic studies highlighting economic benefits of improved employment opportunities for women in grid-based DISCOs. As such, there is a great scope for PIDG to be a leader in this field, and for PIDG to champion the collection of data on gender and employment outcomes within the energy sector in developing economies, particularly in grid-based utilities.

Source: Cain et al. (2016).

3.2.3. Women as end-users of energy infrastructure

In recent years, the off-grid energy market has received a boost from technological advances, in both high- and low-income countries. Moreover, it is expected that, by 2020, the off-grid energy industry will further expand, providing electricity to nearly 100 million homes (IFC, 2015a). The World Bank (2011) estimates that approximately 590 million people in Africa live with no connection to their national electric grid. In India, IFC (2015b) estimates that 400 million people do not use grid electricity as their main source of lighting. This presents a sizeable market opportunity for producers of low-cost alternative lighting products, as well as DFIs seeking to bring about development outcomes through investments in the energy sector.

Women have an important share in this large energy market as users of improved off-grid electricity. Projects seeking to expand energy access through off-grid solutions can improve women's productivity, alleviate time poverty and in turn enable women to engage in paid work or start their own businesses. Several studies have found that energy projects that have incorporated gender issues at the project design stage have 'greater end-user acceptability, initiated more income-generating activities, and increased input and output in entrepreneurial activities' (Alstone et al., 2011).

As such, there are substantial opportunities for PIDG to advance women's empowerment by championing them as mainstream consumers of off-grid energy products and services, and as key entrepreneurs in the off-grid energy supply chain. For example, in India, ADB (2015) found women from all income groups who had access to electricity spent less time collecting fuel and more time on income-generating activities than women in households without electricity. Other studies have highlighted that gender-aware off-grid energy projects have created wider business opportunities for women and increased women's productivity in home-based work. The Lightning a Billion Lives initiative in India seeks to provide employment opportunities for both women and men at various points in off-grid renewable value chains, such as in sales, installation and maintenance. As part of this, women are being trained to run Solar Charging Stations, providing clean light and energy to their local communities. The initiative is run by the Energy and Resources Institute and has generated electricity to over a million people and over 2,400 villages in India since 2008 (Baruah, 2017; Nelson and Kuriakose, 2017).

The significance of power for lighting for both women and men should not be underestimated. However, this report does not further elaborate on women as users of off-grid lightning. Key resources that take a deeper dive into this topic can be found in Box 5.

Box 5: Women entrepreneurs light the way for solar products in Asia – a case study from IFC

Lighting Asia/India is part of IFC's Lighting Global programme, which works towards accelerating access to clean and affordable energy in rural India through the promotion of modern off-grid lighting products, home systems and mini-grid connections. To address barriers to growth in the off-grid energy market, the programme works with private sector actors to provide market intelligence, foster B2B connections, raise consumer awareness of quality-assured lighting products and strengthen last-mile access.

In India, an estimated 400 million people do not use grid electricity as their main source of lighting, with women disproportionately affected. Studies have found that lack of efficient energy connections increases women's time poverty by, for example, adding time spent on household responsibilities, which in turn reduces opportunities to engage in productive and paid work. Lack of clean energy also exposes women, more than men, to health risks from kerosene oil and other fuel-based lighting sources. India's market for off-grid solar products is underdeveloped, with an estimated penetration rate of only 5-7%. Through Lighting India, IFC found two key opportunities for market development – namely, building demand among last-mile customers and ensuring delivery to them. To capitalise on these opportunities, IFC partnered with Frontier Markets, a clean energy products company, and targeted women as distributors and customers of off-grid solar products. The women, organised as Solar Sahelis (networks of self-employed women), promoted awareness of the benefits of high-quality solar lights and highlighted the economic savings and health benefits of solar lighting through various campaigns that particularly targeted women.

The results of this approach are striking: 'At the end of the 18 months' partnership between IFC and Frontier Markets, the Solar Sahelis network accounted for 30 percent of all sales. To date, Frontier Markets has sold 115,000 solar lamps and torches and 12,000 solar home-lighting systems—bringing the benefits



of clean, safe, and affordable light to the homes of approximately 630,000 people. This was possible because the network helped overcome the cost and awareness challenges associated with last-mile distribution. Specifically, gender-smart solutions helped to build distribution networks, increase customer trust and market access, and enhance public awareness and recognition.’

Source: IFC (2015b).

3.3. Transportation

3.3.1. Women as transport stakeholders

Women’s voices are usually underrepresented in infrastructure project

Other relevant safety issues usually flagged by women, when included in stakeholder consultations, are those related to sexual harassment. A survey conducted in Chennai, India, among public transport users, revealed that 66% of consulted women had felt harassed (Mitra-Sarkar and Partheeban, 2010). In Pakistan, this figure amounts to 85% (ADB, 2014). In order to tackle this gendered risk, many public transport services in India have designed women-only facilities.

However, when gender-related concerns, as the above, are not considered, gaining success and sustainability is seriously threatened. A very illustrative case to be cited is the road transport project financed by the World Bank in Uganda (see box 6).

Box 6: Kamwenge–Kabarole road construction in Uganda

In 2011, the World Bank approved a \$265 million project to improve a 66 km road in Uganda. After investigating complaints by local communities, the project was discontinued in 2015. The allegations investigated by the Inspection Panel included ‘...road workers’ sexual relations with minor girls and resulting pregnancies, the increased presence of sex workers in the community, the spread of HIV/AIDS, sexual harassment of female employees, child labor, increased dropout rates from school, inadequate resettlement practices, fear of retaliation, failure to ensure community participation, poor labour practices, and a lack of road safety’ (World Bank, 2016). A recent report investigating the case in Uganda claimed the World Bank neither ensured proper consultations with the local community nor covered girls’ harassment risks in its Environmental and Social Impact Assessment (Bank of Information Center, 2016). Insufficient community engagement has also been identified by the WBG as one of the main causes that led to project failure. In this regard, the WBG suggests to ‘disseminate existing Bank staff guidance on stakeholder engagement to all environmental and social staff’, include training on stakeholder engagement as a ‘core competency for environmental and social development staff’, include stakeholder engagement under the new Environmental and Social Framework (ESF) to encourage a systematic approach and guarantee a continuation of the initial engagement with the community after project preparation (World Bank, 2016). This highlights the need to increase consultations with women and girls in order to be able to identify potential gendered risks and design mitigation strategies accordingly. However, the urge to improve stakeholder engagement is only one of the fifteen lessons learnt from this project. The WBG has diagnosed lessons that cover five different areas:

Area	Key features
1. Structures and oversight mechanisms	Operational safeguard responsibility and safeguard oversight (expand the role for independent Regional Safeguards Advisors);
2. The new ESF	Expand the scope of social safeguards under bank policy (expand the set of social issues covered to include labour standards, community safety concerns, needs of vulnerable groups, systematic stakeholder engagement, etc);
3. Preparation	Social assessment (broader and more robust, covering staff guidance of labour influx issues with concrete mitigation measures, training and implementation review); Assessment of institutional capacities (borrower’s capacity to implement safeguards); Safeguard documentation (training and review quality of safeguard instruments and updating files); risk rating (sensitive to social risks).
4. Project Supervision	Adequacy of project safeguard staffing (matching capacity to risk/complexity of operations, recruit additional social development staff, train staff); Borrower’s reporting on safeguards (protocols and guidance to avoid sporadic reporting); Supervision of identified social risks (supervision checklist as part of ESIA); Community engagement and contract management (environmental and social provisions in contracts
5. Responding to problems and complaints	Proactive management of safeguards problems (safeguards rating decisions, flagging safeguard problems to management, quarterly risk review meetings); Mobilization of expertise at seniority level when complaints are received.



3.3.2. Women as transport sector workers

Transport infrastructure and service projects in developing countries generate many job opportunities for local labourers, both women and men. Indeed, among PIDG's supported sectors, it is transport that has created more long-term employment (PIDG Annual Report, 2016).

However, cultural norms and working conditions frequently impede women from accessing job opportunities in transport. Evidence shows men are highly overrepresented in the transport labour markets in both Africa and Asia (ILO, 2013). In fact, International Labour Organization (ILO) statistics show that female labour in the transport, storage and construction sector in 2014 was at only 7% of the total. These figures reveal the urgent need to take into consideration women's constraints in the transport labour market and to design strategies to address them.

A key route to gender impact for PIDG, already implemented by other DFIs, such as the WBG and ADB, is to set specific targets to develop women's working skills and employment opportunities in the transport sector. A possible entry point to implement such targets and influence private contractors is to include specific gender-responsive employment requirements in construction or maintenance contracts. However, such targets could reinforce pre-existing gendered patterns, if women are stereotyped as suitable for the less qualified and lowest-paying jobs. Thus, DFIs willing to promote gender-responsive projects should not only require a minimum quota for women but also, most importantly, good job quality and equal pay. It is also essential to guarantee that women with reduced communication channels and mobility are properly informed about new job opportunities (World Bank, 2010a; ADB, 2013). Similarly, specific conditions should be included to adapt working conditions to women's constraints, especially considering that women are often tasked with caring for children and the elderly. For instance, a solution that has proven effective to enhance women's labour participation is the provision of childcare facilities near construction sites (IADB, 2013).

Box 7: Women as workers in Cambodia

In 2010 ADB engaged in a project to pave more than 500 km rural roads in Cambodia. The main goal was to improve the connection of poor rural areas to markets, business and social services centres in seven provinces. As part of the project, a detailed gender analysis was undertaken, and a Labour and Gender Mainstreaming Action Plan (GAP) designed, to benefit both women and men local workers. Labour-intensive road construction and maintenance methods, alongside public work programs were crucial to increase local job opportunities. The GAP entailed several activities to mainstream gender in the transport project:

(i) capacity development activities to promote better understanding of the differential gender impact of poor infrastructure and of the social benefits of improving it (related to gender differences in the purpose of travel and travel patterns, and in mobility outside the home and outside the village);

(ii) mandatory recruitment procedures or quotas in minor works contracts, preceded by sensitization activities targeting both men (to encourage them to allow female family members to participate) and women (to inform them of opportunities);

Compliance of (ii) was under the responsibility of the Ministry of Rural Development, who monitored the following outputs:

- 40% of unskilled construction labourers (Output 1: Road Rehabilitation Component)
- 50% of road maintenance workers (Output 2: Road Asset Management Component)
- 50% of road safety community mobilisers (Output 3: Road Safety and Safeguard Program)

(iii) a requirement that contractors recruit a new workforce at regular intervals (e.g. every 5km) to maximize job creation and to ensure that women are not discouraged by excessive travel; and

(iv) equal pay for equal work for both men and women, with a requirement that contractors submit time sheets that are disaggregated by gender.

In 2014, the second phase of the project was initiated, incorporating the lessons learned from phase I. An important take away related to the GAP is that gender-responsive actions were tilted towards road improvement. To prevent the repetition of similar situations in phase II, the balance across all outputs was strengthened. It is also noteworthy that some gender indicators from phase I were deemed as unrealistic, which demonstrated the need to improve field data collection when conducting the gender analysis.

Source: ADB (2013) & Rural Roads Improvement (labour and gender mainstreaming action plan)

3.3.3. Women as end-users of transport infrastructure

Transport projects, such as the construction of rural, urban and interurban roads or ports and bridges, can serve as a catalyst to improve women's livelihoods and incomes. Potential benefits span from improved access to markets, health and education facilities, to new business networks and job opportunities and lesser time burdens. However, gender-unaware projects that overlook women's transport priorities and constraints are prone to failing to deliver these development outcomes.

In fact, ensuring women, as well as men, benefit from access to new transport infrastructure and services requires a closer look at their travel patterns, time use, means of transportation and security concerns. For instance, the construction of a long-distance road could disproportionately serve men as direct beneficiaries if women do not own motorised vehicles to benefit from the new road.

A potential route of gender impact for PIDG supported projects, explored by some donor-based projects in the past, is to promote the use among women of intermediate means of transportation (IMT), such as bicycles, animal-drawn carts or motorbikes. However, to foster women's adoption of IMT, there is a need to provide training and credit facilities as well (World Bank, 2010a).

Box 8: Intermediate Means of Transportation (IMT) promotion as a mean to expand women's benefit from road transport projects.

Transport projects that appear to be gender neutral at face value, could disproportionately benefit male commuters. For instance, the construction of long-distance roads that connect rural areas to secondary cities, '...tends to benefit peak-hour male commuter trip patterns and the needs of car and motorcycle users while failing to address woman's travel needs and patterns'. Thus, gender unaware projects face the enormous risk of widening pre-existing gendered differences in access to markets and business networks.



Gender aware transport programming, seeking to empower women, should first identify, and then address, differences between men and women's travel patterns and mobility restrictions. In the past, donors schemes attempted to address pedestrian's reduced mobility by promoting the use of Intermediate Means of Transportation (IMT), such as bicycles, motorbikes or animal-drawn carts. However, women's adoption of IMTs is not always feasible, due to cultural norms or economic constraints. Those limitations could also be incorporated when designing a transport project, by promoting IMT that adapt to local traditions, and by providing adequate credit facilities.

A case study in Jos Plateau, illustrates how alternative IMTs, such as motorbike taxi services, expanded women's mobility constraints in Nigeria. Rural women took advantage of such means of transportation, which provided them with an alternative mechanism for use on long-distance roads, to reach new markets, health and education facilities. Nonetheless, it is noteworthy that IMT adoption by women is challenging and that successful programs require proper consultation with local communities, to ensure that the equipment fits men and women's needs.

Source: World Bank (2010) & Porter (2008).

Analysis of gender differences in travel patterns widely recognises that women are more likely to travel shorter distances than men. The underlying reason for this is that, while the latter usually travel in motorised vehicles and only once a day, the former mobilise more times a day, with multiple purposes, such as to access basic services and in handling child care or other reproductive duties. Consequently, gender-aware projects should take into consideration these different priorities for women in transport infrastructure. In Lesotho's integrated transport project, focus group discussions revealed that, while men prioritise long-distance roads to reach the larger town, women prefer short-distance roads to access the closest town (Social Development & Infrastructure, 2010). Thus, a **key route to gender impact for PIDG could be to complement long-distance roads with the improvement of feeder roads.**

3.4. Telecommunications

3.4.1 Women as telecommunications workers and entrepreneurs

ICT is widely recognised as a powerful instrument to advance women's empowerment (DAW, 2005). Technology can help bridge gendered inequalities by connecting women from low-income households, whose mobility is many times constrained as a result of their social role as care-givers and other cultural norms (IRENA, 2013). ICT solutions' time and space flexibility offer women new channels to access new information sources, financial services, business networks and job opportunities, even in remote areas of low- and middle-income countries.

In particular, mobile communications play catalytic roles in creating new job opportunities for women as employees and as entrepreneurs. Indeed, a study commissioned by DFID highlights that growth in mobile coverage in rural areas was related to a 15% employment increase, mostly accounted for by women workers (Kabeer, 2012).

Women entrepreneurs who can benefit from mobile money solutions are likely to expand their access to financial services, and by extension their business opportunities in both formal and informal segments. According to GBA (2016), 73% of informal women entrepreneurs do not have access to quality financial services that match their needs. However, new Digital Financial Services (DFS) are found to be better positioned to meet women's needs in both informal and formal markets, compared with traditional financial products and services (GSMA, 2013). Hence, DFS providers could not only help bridge gender gaps but also unlock an untapped segment of the market, as 80% of women-owned small and medium enterprises' credit needs are underserved (Global Findex, 2014). In addition, DFS providers are well positioned to create direct job opportunities for women in developing economies (see Box 10).

Box 9: Women Digital Financial Service agents in Democratic Republic of Congo

IFC, together with the microfinance institution FINCA, recently launched an initiative to increase the adoption of FINCA's services through a network of Digital Financial Service agents, made up of small businesses that already offered financial services and that agreed to incorporate FINCA. As part of a strategy to increase outreach to low-income households in remote areas, FINCA prioritised recruitment of women agents. The results show that 27% of financial agents recruited were women-owned businesses, a figure that stands out given that poor women run only 8% of small businesses in DRC. Women were found to be more efficient than men as financial agents, closing 12% more deals and yielding higher profits². Hence, their incorporation as direct employees has not only advanced their empowerment but also helped FINCA grow more effectively.

Digital Financial Services are facilitated through Mobile Network Operators (MNO), which provide telecommunication services through mobile devices. In the case of FINCA, it operates through MNOs such as Airtel, Vodacom, Tigo or Orange. MNOs usually assume most functions in the mobile money value chain in Sub-Saharan African markets. Not only as the teleco channel, but also assuming a role in developing the product, in distribution and even marketing (GSMA, 2015) solutions are developed by MNOs, in partnership with complementary key players. This case study draws special attention to the strong business case to

² Women's success was related to their proximity to low-income microfinance clients ('IFC found that women are 12 percent more likely than men to be present in low-income areas'); experience as workers in the service sector which position them better to become 'digital finance hubs' and their higher rates of reinvestments (IFC, 2017).



promote job opportunities for women as digital financial agents, given their high success rates in comparison to men.

Source: IFC (2017)

Box 10: Women in ICT employment and training in Ghana (e-Ghana project)

This World Bank project was initiated in 2006 with the objective of stimulating the ICT sector in Ghana. Among its main components was an explicit target to increase the number of women in ICT employment and training, especially in management positions. A previous study in the sector had found that in Ghana women accounted for almost 70% of ICT workers, but the vast majority were at the lowest levels. Thus, the proportion of managerial positions was monitored throughout implementation of the project.

The project goals were:

‘(a) increase ICT-based jobs from 2,000 currently to potentially 40,000 over five years with equal opportunities for women;

(b) increase export-led revenues generated by ICT/ITES industry by about US\$750 million;

(c) 50% of the new jobs created by the project will be held by women, tracking the proportion of managerial and non-managerial positions’

The results of the project shows that, by 2014, the managerial positions held by women in the ICT private sector increased by 28%, surpassing the 20% initial target, due at least in part to World Bank activities to promote female employment. Such outcomes serve as evidence of the possible avenues of leverage that donors and DFIs could have, to create qualified job opportunities for women³.

Source: World Bank (2010b).

3.4.2. Women as end-users of telecommunication infrastructure

Access to mobile communication has the potential to unleash numerous positive outcomes for women’s livelihoods and incomes. Evidence shows DFS can empower women by enhancing their access to financial services, smoothing their consumption and increasing their resilience to economic shocks (BTCA, 2016). Moreover, specific solutions, such as mobile agriculture information services or pay-as-you go digital platforms to buy solar panels or clean cook-stoves, also yield positive outcomes for women’s livelihoods. For instance, it has been found that, if agriculture mobile services encouraged women to adopt the same agricultural inputs men use, they could increase their produce by 20% to 30% (GSMA, 2017).

Integrating women’s needs and concerns into the mobile communications market is essential to harness the sector’s untapped potential. According to GSMA’s Connected Women Initiative funded by DFID, closing the gender gap in the mobile industry could produce a \$170 billion business opportunity between 2015

³ A ‘Feminized ICT’ market is ‘characterized by low wages, high risk, poor working conditions, as evidenced in many export-oriented industries dominated by unskilled women workers at the lowest levels in developing countries’ (World Bank, 2010b)

and 2020. The gender gap in female mobile ownership in low- and middle-income countries is 21% on average, increasing to 23% in Sub-Saharan Africa and 37% in South Asia.

To increase outreach to women and girls, telecommunications projects need be gender-responsive and to target women specifically. Thus, a possible key gender route to impact for PIDG is to encourage telecommunications providers to target the female market, by designing gender-smart solutions, fostering financial literacy, facilitating affordable mobiles or designing strategies to tackle cultural issues (see Box 11).

Box 11: Mobilink – SM-based literacy in Pakistan

Mobilink is a mobile operator in Pakistan, which, together with the UN Educational, Scientific and Cultural Organization and a local non-governmental organisation, plus support from GuarantCo, implemented a programme to improve girls' literacy. This trained professors to use SMS as a tool to teach girls between 15 and 24 years of age to read and write on a variety of topics. In this way, it intended to show 'the positive impact of mobile phones on girls' lives can help overcome community resistance to female ownership' (GSMA, 2009). The programme was successful and the girls' relatives softened their resistance after realising use of the device was not inappropriate. This case study shows how gender-responsive telecommunications projects can help overcome cultural gendered constraints, such as social norms that do not 'approve' women's ownership of mobile phones.

Source: GSMA (2009).



4. Summary of key gender risks and opportunities

	Risks	Opportunities
Women as workers	Once employed in a male-dominated industry, women can be subject to sexual harassment, gender-based violence and discriminatory gender norms and stereotypes that effectively reduce their welfare.	The construction of energy, transport and telecoms facilities yields new opportunities for women’s empowerment through infrastructure works.
	KEY ROUTE TO GENDER IMPACT	
	<p>A basic approach to mitigating these risks should include</p> <ul style="list-style-type: none"> -Gender baseline or early assessment study -Roadmap for interventions to support gender mainstreaming <p>Likely to include project specific measures:</p> <ul style="list-style-type: none"> - Gender mainstreaming policy - Sexual harassment and discrimination policy - Equal opportunities policy. <p>See Box 4. It is important to note that there is not a ‘one-size-fits-all’ solution to mitigate gender disparities in the infrastructure sector workforce. Rather, approaches and strategies should be developed based on context specific gender disparities.</p>	<p>A key route to gender impact for PIDG, implemented by other DFIs (WBG, ADB) and development agencies (USAID), is to promote the recruiting and training of women in the workforce, but as skilled and semi-skilled workers. One mechanism is to set specific targets to develop women’s working skills and employment opportunities. A possible entry point to ensure project developer compliance is to include gender-specific recruitment requirements in the corresponding contracts (Box 2 on Kenya and Uganda, Box 7 on Cambodia, Box 9 on DRC, Box 10 on Ghana).</p>
Women as stakeholders	Women often have different energy, transportation and communication preferences compared with men. Without a proper understanding of these differences, infrastructure investment projects risk underestimating and underserving female infrastructure consumers. Gender-unaware infrastructure interventions may reinforce gendered inequalities and stereotypes, and even have negative impacts on women, including increased risks of violence and sexual assault (Box 6 on Uganda).	Consultative processes that recognise the needs and wants of both women and men are found to improve the performance and sustainability of infrastructure projects. Consulting women not only is the right thing to do but also helps businesses reach an untapped segment of the market by incorporating gender concerns into project design and implementation.
	KEY ROUTE TO GENDER IMPACT	
	Ensure women and girls are consulted at all stages of the project cycle in order to identify potential gendered risks and design prevention/mitigation strategies. For instance, a possible entry point for DFIs is to ensure contractors have adequate sexual	Ensure women and girls are consulted in order to identify gendered needs and challenges. Such consultations inform gender-responsive project designs that incorporate women’s needs and security concerns as users and workers. For instance,

	harassment and discrimination policies in place.	conducting gender-responsive consultations throughout any given project cycle, companies can gain valuable insights into elements such as women’s preferred location for energy, transport or telecoms infrastructure facilities. Likewise, when a project entails community displacement, DFIs should address women’s needs by, for example, compensating them on equal terms with men (Box 1 on Zanzibar and Zambia, Box 2 on Vietnam).
Women as end-users	Neglecting women’s needs and priorities as users of energy, transport and mobile services could reinforce pre-existing gendered inequalities and prevent women’s access to, and benefits from, infrastructure projects.	Focusing on women’s specific needs as users of energy, transport and mobile facilities could help advance women’s empowerment while at the same time expanding product acceptability, which presents sizable market opportunities for private developers.
	KEY ROUTE TO GENDER IMPACT	
	There are substantial opportunities to advance women’s empowerment by championing women as mainstream consumers of off-grid energy or mobile services . Likewise, we can bridge gendered mobility gaps by promoting the use of IMT when constructing long-distance roads (Box 5 on India, Box 8 on Nigeria, Box 11 on Pakistan).	

4. Gender mainstreaming in development finance: approaches to integrating gender for PIDG consideration

5.1. Overview

To seize untapped opportunities and mitigate overlooked risks, gender concerns should be integrated throughout the entire infrastructure project cycle (UNW, 2016). The above section focused on gendered risks and opportunities in specific sectors and geographies for women as stakeholders, workers, and end-users (or ‘beneficiaries’). These risks and opportunities are project-specific and should be addressed as such.

IFIs and DFIs at a multilateral, regional and bilateral level have adopted similar methodologies and approaches to gender mainstream their operations. In the following section, this report provides an overview of selected practices related to gender mainstreaming. These best practices provide an indication of promising options for PIDG. When considering these options it is important to also recognise each facility’s⁴ different modes of engagement with the private sector, which offer up different leverage and possible entry points for gender inclusive strategies.

Lessons can be drawn from a wide range of development banks and funds that have gender mainstreamed their operations, such as the World Bank Group (WBG), the Inter-American Development Bank (IADB), the Asian Development Bank (ADB), the African Development Bank (AfDB), the European Bank of Reconstruction and Development (EBRD), the International Fund for Agricultural Development (IFAD), the Climate Investment Funds (CIF) and the Global Environment Facility (GEF).

This report selects three leading IFIs, each with an extensive track record in incorporating a gender focus into operations in sectors and regions relevant to PIDG’s facilities: WBG, ADB and GEF. WBG was selected because it is widely recognised as one of the leading multilateral institutions, with vast experience in incorporating a gender focus in its infrastructure investments. By 2014, 95% of its lending operations ‘informed gender’ (WBG, 2015).⁵ Its first Gender Strategy dates back to 2001 and its most recent action, the Gender Cross-Cutting Solutions Area, was launched in 2014, in an effort to integrate the Bank’s view with IFC’s gender focus.

ADB is a pioneer in gender mainstreaming operations, with its first gender policy launched in 1998 and operationalised in 2000. By 2015, 54% of sovereign projects had been gender-mainstreamed.⁶

⁴ InfraCo Asia, InfraCo Africa, EAIF, TAF, GuarantCo and DevCo.

⁵ It is important to note this figure does not reflect quality or expected gender results to advance women empowerment.

⁶ The figure of 54% gender-mainstreamed projects is not comparable with WBG’s figure (95% of projects informing gender) because they reflect different level of gender awareness.

Finally, the GEF gender approach is more recent but particularly relevant to inform approaches to mainstream gender in the energy sector. GEF's case is also crucial to show how organisations that initiate their 'gender journey' based on other DFIs' experience are capable of achieving results in less than four years. GEF progressed rapidly, from an initial 25% and 35% of projects gender-responsive in Asia and Africa, respectively, to 73% and 83% after the gender policy's implementation (UN Women, 2016).

This section provides an overview of:

- 1) The institutional framework developed by the listed DFIs to address gender concerns (WHAT?);
- 2) their main motivations to mainstream gender and the women's livelihoods dimensions targeted (WHY?);
- 3) the key tools and activities used to operationalise gender mainstreaming policies (HOW?); and
- 4) a summary of the main results achieved per sector (WHERE?).

Finally, the section highlights the strengths and weaknesses of these approaches, alongside main lessons learnt. Based on these criteria, we then consider if and how practices could be adapted to support PIDG facilities'.



5.2. Summary of selected DFI/IFI gender mainstreaming practices

Table 1: World Bank Group (WBG)

<p>WHAT? Institutional framework</p>	<ul style="list-style-type: none"> • Gender Strategy 2001 • Gender Action Plan 2006, from human development sectors (education and health) to infrastructure, agriculture, private sector development and labour • World Development Report 2012 – Gender Equality and Development, policy framework promoting investment in women and girls as ‘smart economics’ • Gender Strategy FY2016–2023: more ambitious targets, new M&E system and willingness to promote transformational projects
<p>WHY? Gender objectives</p>	<ol style="list-style-type: none"> 1. Human development 2. Economic opportunity 3. Voice and agency
<p>HOW? Main tools and activities to operationalise</p>	<p>Project cycle</p> <ul style="list-style-type: none"> (i) Analysis: identify gaps in outcomes in given sector and project context (Gender Analysis – see Figure 2) (ii) Action: design interventions to address the gaps (GAP – see Figure 2) (iii) M&E: measure gap changes, including gender-disaggregated data (Gendered M&E – see Figure 2) <p>New monitoring system to better reflect practice and quality of results. Teams are encouraged to identify project-specific gender gaps and propose activities to bridge them and indicators to track progress.</p> <p>Project Concept Note includes guiding questions to identify whether project incorporated (i), (ii) or (iii).</p> <p>Capacity development</p> <p>New training modules. IFC develops e-learning course, closing gender gaps and business benefits.</p> <p>Knowledge management</p> <ul style="list-style-type: none"> • Publications and programmes to diffuse gender-smart approaches. • Communications campaign to foster partnerships and improve project execution. <p>Partnerships</p> <p>Forge partnerships at an international and national level (e.g. Wevolve programme in India aims to fight gender-based violence)</p>
<p>WHERE? Results</p>	<p>Gender mainstreaming has been effective in enhancing the incorporation of gender elements at entry. By 2014, 95% of projects had incorporated gender in at least one of three categories ((i) analysis, (ii) actions, (iii) M&E), 82% in two dimensions and 55% in all three.</p> <p>However, the old monitoring system focuses on tracking mainstreaming at the design stage. The 2016–2023 Gender Strategy seeks to develop a new monitoring system, closer to the reality in the field and capable of reflecting implementation quality.</p>

SOURCE: Own elaboration, based on World Bank (2015)

Table 2: Asian Development Bank (ADB)

<p>WHAT? Institutional framework</p>	<ul style="list-style-type: none"> ● Gender and Development Policy 1998 ● 3 Gender Action Plans (GAPs): 2000–2003; 2008–2010; 2013–2020 ● Gender Categories/Mark <ol style="list-style-type: none"> 1. <i>Gender Equity Theme (GET)</i> – with a gender analysis, explicit gender outcomes, a GAP with gender-inclusive design features, targets and indicators, referred to in report to Board and a corresponding covenant 2. <i>Effective Gender Mainstreaming (EGM)</i> – considers gender in the social analysis, includes gender design features in more than 50% of outputs. GAP in report to Board and covenant 3. <i>Some Gender Elements (SGE)</i> – no gender analysis or GAP, but efforts to identify +/- impacts on women; some gender design features included 4. <i>No Gender Elements</i> <p>Only projects categorised in (1) and (2) are considered gender-mainstreamed (GM).</p>
<p>WHY? Main gender objectives</p>	<ol style="list-style-type: none"> 1. Human development 2. Economic empowerment 3. Time poverty 4. Voice and decision-making 5. Vulnerability to risks and shocks
<p>HOW? Main tools and activities to operationalise</p>	<p>Project cycle</p> <ol style="list-style-type: none"> (i) Concept Phase – identify gender gaps and assign a gender category in Project Concept Paper; allocate a gender specialist and collect gender-disaggregated data; assign targets and indicators (Gender Analysis – see Figure 2) (ii) Project Design and Approval – gender analysis as part of poverty and social analysis; recommend gender elements in mitigation measures; assess gender benefits, design a GAP that integrates gender features; in the loan agreement include covenants to ensure GAP (GAP – see Figure 2) (iii) M&E – train Executing Agency on project GAP and ensure it reports on progress; specify gender targets in bidding documents for contractors; include a section on gender in project completion report. (Gendered M&E – see Figure 2) <p>Corporate Results Framework: target of 40% GM projects by 2008, increased to 45% in 2016.</p> <p>Capacity development</p> <p>Staff and skill gaps, technical capacity needs to be reinforced. By 2015, 11 staff gender specialist in ADB headquarters’ departments. Aim to increase that figure. Support capacity building for Executing Agencies.</p> <p>Partnerships</p> <p>Seeks to forge more partnerships with development agencies, private sector and civil society to increase resources and programming alignment.</p>
<p>WHERE? Results</p>	<p>54% of projects gender-mainstreamed by 2015, exceeding the 45% corporate target. However, these corporate targets only inform the degree to which gender design elements are integrated at entry. Hence, it should be complemented by a review of achieved gender results. ADB’s Development Effectiveness Review shows the success rate, including gender results. Gender-mainstreamed completed projects that delivered⁷ gender equality results went from 39% in 2010 to 81% in 2015.</p>

SOURCE: Own elaboration, based on ADB (2012) & Independent Evaluation ADB (2017)

⁷ ‘Success from a gender equality perspective is measured by carefully scrutinizing project completion reports for sex-disaggregated data; intended gender equality results and achievements of the overall project, whether or not the overall project was judged successful and why; and reported achievements against the project Gender Action Plan (GAP) activities and targets’ (ADB, 2016).



Table 3: Global Environment Facility (GEF)

<p>WHAT? Institutional framework</p>	<ul style="list-style-type: none"> • Gender Mainstreaming Policy 2011 – 7 minimum requirements: institutional capacity; gender elements in project design, implementation and review; project gender analysis; measures to mitigate adverse gender impacts; gender-aware activities; M&E of mainstreaming progress; inclusion of gender experts in projects • Gender Equality Action Plan (GEAP) 2014 – establish actions to operationalise the policy
<p>WHY? Rationale and main gender objectives</p>	<p>Equal access to and control over resources and services provided</p>
<p>HOW? Main tools and activities to operationalise</p>	<p>Project cycle</p> <ul style="list-style-type: none"> (i) Gender analysis (see Figure 2) (ii) Gender marker system (create categories of gender relevance) (GAP – see Figure 2) (iii) M&E: report on annual progress on GEAP implementation; guidance note of gender-responsive indicators; monitor gender indicators at a corporate level; evaluate gender equality results of projects (mid-term review, thematic and country evaluation, etc.; implementation work plan and budget for implementing the GEAP (Gendered M&E – see Figure 2) <p>Key documents:</p> <ul style="list-style-type: none"> • Guideline Paper on Mainstreaming Gender • Section on gender mainstreaming in project templates (Project Identification Form, CEO Endorsement Form, Implementation Report, Mid-Term Report, Terminal Report) <p>Capacity development</p> <ul style="list-style-type: none"> • Designate gender focal points and coordinator to implement GEAP • Establish accountability system and incentive structure on gender equality among staff • Establish an Inter-Agency Working Group • Capacity needs assessment and training for staff <p>Knowledge management</p> <ul style="list-style-type: none"> • Develop a gender webpage to exchange good practices • Thematic products
<p>WHERE? Results</p>	<p>After the Gender Policy was launched in 2011, the number of gender-unaware⁸ projects plummeted from an initial 64% in 2011 to a mere 1.3% in 2015. However, the proportion of gender-mainstreamed⁹ projects was still scarce by 2015, at only 5% of the sample.</p>

SOURCE: Own elaboration based on GEF (2012, 2017) and GEF Independent Evaluation Office (2017)

⁸ Those that don't 'demonstrate awareness of the set of roles, rights, responsibilities, and power relations associated with being male or female. Gender is not mentioned in project documents beyond an isolated mention in the context description, gender is not tracked by the tracking tools and M&E instruments, no gender analysis took place, no gender action plan or gender strategy was developed for the project' (IEO, 2017, p. 58).

⁹ A gender-mainstreamed project ensures gender perspectives and attention to the goal of gender equality are central to most, if not all, activities. A gender analysis or social analysis with gender aspects is undertaken, gender-disaggregated data are collected, gender-aware indicators are integrated in M&E and data collected inform the project (IEO, 2017, p. 58).

4.3. Strengths, weaknesses and lessons learnt

Project classification

ADB's main strength is its categorisation system, widely recognised as an effective tool and best practice, both internally and externally (Independent Evaluation ADB, 2017; IEO, 2017). It serves the ultimate purpose of measuring the degree to which gender concerns are integrated when the project is identified and designed (at project entry). It also defines in a clear and transparent manner what projects are considered 'gender-mainstreamed' (those categorised as GET and EGM). In the case of GEF, each GEF agency uses its own gender marker. In contrast, WBG does not have such a clear categorisation system, which makes its system less effective.

Ongoing monitoring

Ex-ante categorisations such as the above help in developing gender-responsive projects at design stage but not in tracking their evolution throughout the entire project cycle. To complement and track gender results at project completion, ADB also measures the success rates of 'gender-mainstreamed' projects and compares the developed activities against actions agreed in the GAP. Despite being much more advanced than other DFIs in this respect, it still recognises the insufficient quality of its monitoring reporting and its effects on gender result delivery (Independent Evaluation ADB, 2017). In this regard, the WBG 2016–2023 Gender Strategy proposes a new monitoring system to ensure gender results tracking at project completion, based on an assessment that found 'critical information is missing on what happens in practice with respect to how operations are implemented and whether gaps between males and females are being closed and women's voice and agency enhanced' (World Bank, 2015). It is still too early to draw clear conclusions on GEF's gender monitoring system, since many of its gendered projects are completed.

Capacity building

Other areas with scope for improvement across the analysed DFIs are capacity-building and resource allocation. Capacity-building is essential to help staff incorporate a gender lens, identify gendered risks and opportunities and engage private co-developers. ADB's staff identified lack of technical knowledge as a key constraint to integrating gender into their work and manifested willingness to receive trainings. Consequently, ADB intends to launch new online and face-to-face courses on identifying key risks and opportunities in specific sectors, conducting gender analysis, designing a GAP, collecting gender-disaggregated data and monitoring and reporting on gender results. In addition, ADB noted a lack of gender specialists was a common feature of projects that failed to deliver gender results, and thus plans to increase their number (Independent Evaluation ADB, 2017). Similarly, WBG aims to reinforce capacity-building to diffuse best practices, create a clear business case and help staff identify key gender concerns. GEF has launched compulsory training modules for both operational and managerial employees.

Financial resource constraints

Finally, all DFIs highlight a lack of adequate financial resources as a crucial limitation. ADB underlines the need for technical assistance and grants to foster gender results. WBG remarks the 'importance of having dedicated resources (to build) institutional commitment to incorporating gender into analytical and



operational work' (World Bank, 2009). GEF recommends using earmarked budgets to gain efficiency and accountability (IEO, 2017).

Conclusions

To conclude, it is noteworthy that all DFIs' approaches are project-specific, as opposed to assuming certain sectors, sub-sectors or investments are more prone to catalysing positive gender outcomes than others.¹⁰ Also, in every case, they incorporate gender throughout the whole project cycle: identification, design, implementation and M&E.

At identification phase, a gender analysis is conducted, to assess gendered risks and opportunities related to the project. Gender-disaggregated baseline data are collected, gender-related goals defined and gender categories assigned. Categories vary among DFIs, but ADB's are recognised as best practice and are being replicated by others, such as AfDB (IEO, 2017).

At design phase, a project-specific gender action plan (GAP) is developed, to detail gender action points that will help unlock gendered opportunities and prevent or mitigate gendered risks. GAPs are the flagship of most gender mainstreaming plans, and many recognise their capacity to enhance projects' results and effectiveness (Independent Evaluation ADB, 2017). Up to this stage, DFIs have achieved successful results in incorporating gender issues at project entry, as tables 1, 2 and 3 shows. It is also noticeable that results can be achieved in a small period of time, as GEF's case reflects.

However, during implementation and M&E, stronger monitoring systems are needed to deliver gender-results and advance women's empowerment. To this end, gender training and resource allocation should be reinforced at every stage of the process.

¹⁰ In this regard, IADB's Implementation Guidelines for the Operational Policy on Gender Equality in Development clearly state 'the a priori definition of operations or sub-sectors for which gender is "relevant" is not recommended' (IADB, 2013).

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7. Appendix

7.1 GLOSSARY OF KEY TERMS

Access and Control Productive, reproductive, and community roles require the use of resources. In general, women and men have different levels of both access (the opportunity to make use of something) to the resources needed for their work, and control (the ability to define its use and impose that definition on others) over those resources.

Gender Gender is more than biological differences between men and women, boys and girls. Gender defines what it means to be a man or woman, boy or girl in a given society – it carries specific roles, status and expectations within households, communities and cultures. The traits and characteristics associated with gender differ from culture to culture, may vary within cultures, and evolve over time. These differences mean that: individuals face different situations as to what economic, social and political opportunities are open and accessible to them, and what status they hold within economic, social and political institutions. (CARE, no date).

Gender Analysis A gender analysis explores the condition and position of women relative to men in a given context and highlights inequalities in gender relations within the household and how they interrelate with power relations at international, state, market and community level. It is based on sex-disaggregated information and applies gender analytical concepts such as “the gender division of labour”, “access to and control over resources”, and “gender needs and interests”.

Gender Awareness Gender-aware is a term to describe programming that identifies and addresses the different gender needs of women and men. Gender unaware programming, in contrast, is blind to different gender needs and can harm women because they reinforce men’s privilege to the disadvantage of women. Three types of gender-aware programming are often considered. Gender neutral programming works within the existing gender division of labour, and improve women’s and men’s condition, but do not aim to improve the position of women in society. Gender specific programming targets women specifically. Gender transformative programming aims to empower women and transform gender relations to be more equal.

Gender Equality The result of the absence of discrimination on the basis of a person’s sex in opportunities and the equal allocation of resources or benefits or in access to services.

Gender Equity Entails the provision of fairness and justice in the distribution of benefits and responsibilities between women and men. The concept recognizes that women and men have different needs and power and that these differences should be identified and addressed in a manner that rectifies the imbalances between the sexes.

Gender Needs Leading on from the fact that women and men have differing roles based on their gender, they will also have differing gender needs. These needs can be classified as either strategic or practical needs.

Gender-responsive The particular needs, priorities, and realities of men and women are recognized and adequately addressed in all project phases so that both men and women can equally benefit.



Gender Roles Learned behaviours in a given society/community, or other special group, that condition which activities, tasks and responsibilities are perceived as male and female. Gender roles are affected by age, class, race, ethnicity, religion and by the geographical, economic and political environment. Changes in gender roles often occur in response to changing economic, natural or political circumstances, including development efforts. Both men and women play multiple roles in society. The gender roles of women can be identified as reproductive, productive and community managing roles, while men's are categorized as either productive or community politics.

“Gender” is not another word for “women” Gender refers to the culturally based expectations of the roles and behaviours of males and females. The term distinguishes the socially-constructed from the biologically-determined aspects of being male and female. It is about women and men, their socially constructed roles, socially learned behaviours, and expectations of being male and female, and the responsibilities, the power and other relations between them.

Sex Identifies the biological differences between men and women, such as women can give birth, and men provide sperm.

Sex-disaggregated data For a gender analysis, all data should be separated by sex (and where relevant, by other variables)

Adapted from “Gender and Renewable Energy: Entry Points for Women’s Livelihoods and Employment” (Climate Investment Funds, 2017) “Integrating Gender Considerations into Energy Operations” (Energy Sector Management Assistance Program, ESMAP, 2013) & “Gender equality, women's rights and access to energy services” (Kathrine Danielsen, 2012)