

# **Gender and the Clean Development Mechanism (CDM)**

Opportunities for CDM to Promote Local Positive Gender Impacts

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# Preface

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The Kyoto Protocol's Clean Development Mechanism (CDM) has a dual goal of supporting projects that reduce greenhouse gas emission reductions in developing countries and assisting developing host countries in achieving sustainable development. Although gender equality is a cross-cutting theme of sustainable development, CDM has not been systematically examined from a gender perspective.

The Ministry for Foreign Affairs of Finland appointed GreenStream Network Plc to address this gap by exploring the potential of the Kyoto Protocol's Clean Development Mechanism (CDM) to promote gender equality.

This study reviews relevant literature, tools and criteria, develops a CDM Gender Spectacles Tool to screen potential gender-positive local impacts of CDM project types and activities, and applies this Tool to a selected sample of real CDM projects. Although potentially significant, indirect and macro-level socio-economic and political gender impacts are beyond the scope of this study. This study does not attempt to be an exhaustive analysis of all potential gender impacts, but instead, it serves as a first step to identify gender-related issues in the context of CDM and aims to stimulate further discussion on how to best align the various objectives of climate change policy, Millennium Development Goals, and overarching sustainable development.

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## List of Abbreviations

Abbreviation	Meaning
<b>CBD</b>	Convention of Biological Diversity
<b>CDCF</b>	Community Development Carbon Fund
<b>CDM</b>	Clean Development Mechanism
<b>COP</b>	Conference of the Parties
<b>EE</b>	Energy efficiency
<b>GEF</b>	Global Environment Fund
<b>GGCA</b>	Global Gender Climate Alliance
<b>GHG</b>	Greenhouse gas
<b>HFC</b>	Hydrofluorocarbon
<b>MDGs</b>	United Nations' Millennium Development Goals
<b>PDD</b>	Project Design Document
<b>PoA</b>	Programme of Activities
<b>SD</b>	Sustainable development
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

# Introduction and Scope

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## Introduction

The Kyoto Protocol's Clean Development Mechanism (CDM) aims to promote greenhouse gas (GHG) emission reduction projects in developing countries and support sustainable development in host countries. Sustainable development consists of a wide range of environmental and socio-economic aspects, with varying host country priorities and emphases.

This report explores CDM's largely unmapped potential to promote a particular aspect of sustainable development: gender equality. Gender equality is a core sustainable development objective in its own right as well as a driving force for achieving other development objectives such as poverty eradication, education, health and environmental sustainability. Finland has played an active role in promoting gender equality, including the integration of gender perspectives into global climate policy.

Given CDM's mandate to promote sustainable development, and gender equality as both a sustainable development goal itself as well as a driver for other development goals, it seems reasonable to assume that CDM has potential to promote gender equality, and vice versa. CDM has leveraged significant amounts of new financing for many project types and sectors, most notably the energy sector, where gender considerations are widely recognised as key to project success and which are known to promote gender equality. However, despite extensive analysis of CDM's sustainable development benefits, gender aspects have hardly been touched upon, much less recognised at any systematic level in the CDM discourse.

This study aims to address this gap and sets out to test the implicit assumption of gender-neutrality of CDM. A review of relevant literature identifies potential synergistic overlaps where CDM can promote gender equality, and vice versa. This study introduces the CDM Gender Spectacles Tool for mapping opportunities for CDM to promote local positive gender impacts in the host developing countries, and exploring factors and contexts that determine the extent and nature of CDM's gender-positive impacts. This two-step Tool is then used to shortlist prospective project types and to analyse a selected sample of actual CDM projects. Although potentially significant for host country-level sustainable development, indirect and macro-level socio-economic and political gender impacts are beyond the scope of this study.

A decade of experience with the CDM will provide the foundations for a scaled-up successor or successors of this pioneering project-based mechanism. New market mechanisms will increasingly need to integrate climate considerations into wider national development frameworks and strategies which, at least in most developing countries, are geared towards poverty eradication and economic growth, leaving mechanisms to strike balances between dual or multiple objectives. Thus, an examination of the experiences of CDM also through gender spectacles seems warranted and timely.

## Objectives and Research Questions

The study aims to answer the following questions:

- Do any CDM project types have potential direct positive local-level impacts on gender equality?

If yes,

- **what types** of potential direct positive gender impacts can CDM project types have locally, and under what assumptions and conditions?
- are there **real-life cases** of CDM projects with identified positive gender impacts?
- **which factors** influence the **realisation** of these potential positive impacts?
- **why** might it be beneficial to better recognise and enhance CDM projects' gender-positive impacts?
- **how** could these impacts be better recognised and enhanced?

## Scope of the Study

The study covers the potential direct positive impacts of selected CDM project activities on the local population within the project boundaries, with a focus on rural households. Although CDM's sustainable development objective is defined at a national rather than local level, the sub-set of household-level impacts provide the most accessible and best-documented starting point for exploring gender differences. Although potentially significant, indirect and macro-level socio-economic and political gender impacts are beyond the scope of this study.

Similarly, focusing on developing countries' rural areas provides an accessible entry point for examining CDM projects' gender aspects. Furthermore, rural areas in developing countries typically share some widely recognised and well-documented

features and development challenges, allowing some general observations to be made. For example, energy access is a common theme for rural populations, gender equality and CDM. Greater variation across urban areas and industrial units, coupled with a lack of gender-disaggregated data, makes it more complex to map generic gender impacts in those contexts.

The study's emphasis on women's roles, needs and participation in relation to CDM projects reflects the assumption that, in typical CDM project processes, women are the under-represented gender and efforts to increase attention to women's perspectives will contribute towards equal opportunities for men and women, and also towards appropriate design and effective implementation of the project in question. An implicit assumption is thus that the incorporation of men's roles, needs and participation in relation to CDM projects can be taken for granted; men are able to secure equal opportunities to participate in project planning and benefit from the project outputs even without targeted promotion of their perspectives. Of course, an individual's access to project planning and decision-making is determined not only by their gender but also their income level, ethnicity, social class etc.

Great variation within and across cultures, sectors and regions make gender issues highly context-specific. Hence, general observations should be interpreted with caution, bearing in mind their underlying assumptions and chosen focus and context. In this study, potential gender-positive impacts of selected project types are assessed against clearly identified baselines which describe the context for the identified impacts.

This study does not attempt to be an exhaustive analysis of all potential gender impacts, but instead, aims to discover whether CDM projects offer opportunities to generate positive gender impacts; to identify project types and factors which promote these opportunities; and to consider circumstances that may limit their realisation.

## Approach and Structure

The study builds on available literature on gender mainstreaming in relevant developing country sectors and considers how CDM project activities fit into this existing framework. Based on a review of literature and gender mainstreaming tools, a CDM Gender Spectacles Tool for identifying potential gender-positive impacts is developed. This screening tool is used for categorizing CDM project types in accordance with their potential to generate direct local gender-positive impacts. Once project types with potential for gender-positive impacts are identified, they are assessed in more detail by studying a selected sample of actual CDM projects against clearly identified baselines. Project-level observations feed into the Tool and into the discussion and analysis of the study.

The remainder of the report is structured as follows:

- **Chapter 2.** provides an overview of relevant background information on CDM, gender equality, and sustainable development as the link between gender equality and CDM.
- **Chapter 3.** introduces existing tools for gender mainstreaming, gender impact assessment and analysis of CDM's sustainable development impacts, and develops a new two-phase CDM Gender Spectacles Tool for identifying CDM's potential direct local gender impacts.
- **Chapter 4.** applies the CDM Gender Spectacles Tool by screening CDM project types to identify categories with potential for local, gender-positive impacts, and analysing a sub-set of actual CDM project representing the most potential project types.
- **Chapter 5.** summarises and concludes the study.

# CDM and Gender Equality

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## Background: Clean Development Mechanism (CDM)

### Policy Context

Global climate policy, based on the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, is guided by the principles of equity, efficiency, co-operation and precaution, within the context of sustainable development. Parties “have a right to, and should, promote sustainable development. Policies and measures to protect the climate [...] should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.”<sup>1</sup>

Reflecting these principles, the Kyoto Protocol assigns legally binding greenhouse gas (GHG) emission caps to industrialised countries, and promotes voluntary emission reduction project activities in developing countries through the Clean Development Mechanism (CDM). CDM has a dual objective of supporting project activities that reduce global GHG emissions in developing countries while also assisting host countries in achieving sustainable development.

The Kyoto Protocol’s first commitment period covers the years 2008–2012. No targets have yet been agreed for the post-2012 period.

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<sup>1</sup> UNFCCC, 1992. Article 3.

### Purpose and Procedures

CDM was launched in 2001 as a project-based market mechanism for leveraging finance for new and additional project activities that reduce GHG emissions beyond baseline levels. The CDM cycle is governed by a dedicated UN body and consists of ex-ante validation of the project concept and periodic ex-post verification of the achieved emission reductions by independent, UN-accredited auditors.

The ex-ante validation focuses on assessing information contained in the Project Design Document (PDD) against CDM criteria, including identification of the baseline (the emission scenario in the absence of the CDM project); estimation of the project’s emission reductions; monitoring plan; and information on the project’s environmental impacts, contribution to sustainable development in the host country, and stakeholders’ comments. The validation begins with a 30-day public consultation. The ex-post verification focuses on assessing the Monitoring Report to ensure that the project has been implemented in accordance with the registered PDD and to verify the amount of emission reductions achieved during the monitoring period.

Registered CDM projects that successfully complete the CDM cycle are issued a carbon credit<sup>2</sup> for each verified tonne of avoided emissions<sup>3</sup>. Project owners can sell these carbon credits to buyers who can use them to comply with emission targets

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<sup>2</sup> Formally referred to as a Certified Emission Reduction (CER)

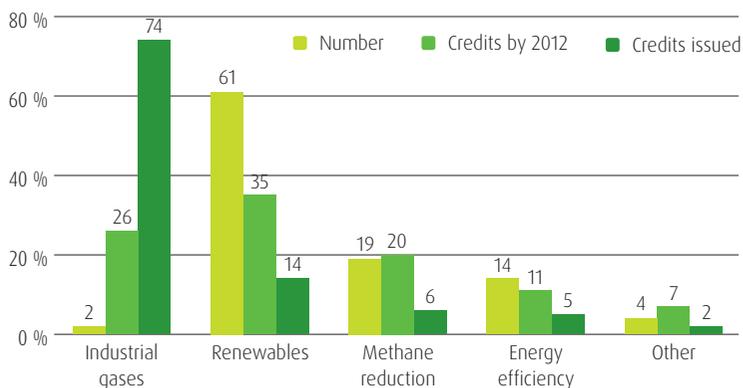
<sup>3</sup> Measured in carbon dioxide equivalent (CO<sub>2</sub>e).

under the Kyoto Protocol or regional systems, such as the EU Emissions Trading Scheme. Revenue from the sale of carbon credits offers an additional income stream for climate-friendly projects, thus improving their viability and competitiveness relative to conventional technologies with higher climate emissions.

### Achievements and Challenges

In the past decade, the CDM has incentivized the development of over 5500 prospective projects.<sup>4</sup> Figure 1 presents the current CDM pipeline by project type. Renewable energy is the largest project type both in terms of project numbers and volume. Industrial gas projects<sup>5</sup> are very few in number but constitute over a quarter of the emission reduction potential by 2012 and three quarters of the already issued volume. Projects involving reduction of methane emissions or improvement of energy efficiency are also relatively popular.

**Figure 1. CDM Projects by Types<sup>6</sup>**



<sup>4</sup> UNEP Risoe, 2010.

<sup>5</sup> Projects that destroy industrial gases, namely HFC, PCF and N2O, in industrial facilities related to e.g. reffridgeration, insulation and fertilization, respectively.

<sup>6</sup> UNEP Risoe, 2010.

CDM is estimated to have leveraged over US\$100 billion for climate-friendly projects between 2002-08,<sup>7</sup> almost four times that of public Official Development Aid funding for climate change mitigation in the same period.<sup>8</sup> CDM’s achievements also include pioneering the carbon market and developing capacity, institutions, procedures and methodologies for estimating the climate impact of various types of project activities.

Although a good start, CDM in its current form is incapable of incentivizing climate change mitigation of a sufficient scale in developing countries. Uncertainty about post-2012 climate policy is undermining the viability of new CDM projects. Furthermore, the complex and time-consuming CDM cycle has lead to long lead times, considerable transaction costs and high capacity requirements which, in turn, have restricted the realisation of CDM benefits. To reduce transaction costs, especially of small project activities, simplified small-scale methdologies and procedures have been developed, and pooling of several project activities into one ‘bundle’ is allowed. Standardised baselines are also under discussion.

As an effort to scale up CDM, the Programme of Activities (PoA) concept has been developed as a vehicle for pooling and replicating large numbers of small emission reduction activities, dispersed over time and location and typically unviable as isolated CDM projects due to prohibitive transaction costs. This so-called programmatic approach aims to expand CDM’s reach from industrial-scale facilities to household-level activities, and extend its scope from projects to programmes. Since July 2007, it has been possible to register a PoA as a single CDM project activity.<sup>9</sup>

To date, PoAs have not yet fully measured up to the high expectations; as of October 2010, only five PoAs had been

<sup>7</sup> Huhtala & Ambrosi, 2009.

<sup>8</sup> OECD, 2010.

<sup>9</sup> Hinostraza, et al.2009, 7-8

registered under CDM.<sup>10</sup> Nonetheless, programmatic CDM holds great promise for catalysing many project types that have thus far been by-passed by project-based CDM, such as household-level biomass, solar energy, connection of isolated electricity systems, and household biogas. If implemented as individual CDM projects, these project types often struggle to cover CDM transaction costs to take projects beyond the break-even point. Perhaps most importantly, the aggregation of a large number of small household-level activities under one PoA can generate both high sustainable development benefits and a large volume of emission reductions simultaneously, thus holding potential for meeting CDM's dual objective better than typical large-scale CDM projects. However, untapping the potential of the programmatic approach requires clarification of procedures and of post-2012 climate policy.

## Background: Gender Equality

### Basic Concepts

Gender refers to the socially determined roles, behaviours and activities attributed to men and women in society and in public and private life. Gender differences have been learned, they can change over time and they can vary greatly within and across cultures (see Table 1 for a glossary of key gender terms).

Gender equality prevails where men and women enjoy equal opportunities for leading fulfilling lives, and where neither men nor women face systematic disadvantages due to their gender. The aim is not the identical treatment of men and women but instead, gender equality requires that men's and women's differing needs, priorities, aspirations, constraints, contributions, opportunities etc. are recognised and treated as equally important. Gender equality is both a goal in its own right,

embedded in the Universal Declaration of Human Rights<sup>11</sup>, and a key driver and pre-condition for many other development goals (see Section 2.2.2).

Gender mainstreaming is the strategy for achieving gender equality through the systematic integration of gender considerations into all levels and stages of policies, programmes and other interventions.

Although the concept of gender equality refers to equal opportunities for both men and women, the discourse often equates gender issues to women's issues.<sup>12</sup> However, gender equality is a goal that concerns and benefits both genders, and can thus only be achieved through the involvement, co-operation and support of both men and women. Men can play a key role in improving women's lives, and vice versa, so it is unhelpful to separate 'women's issues' from 'men's issues'. While in many cases and contexts women indeed are those disadvantaged by their gender, this is neither automatic nor permanent.

### Gender and Development

Gender equality is a key factor for meeting and maintaining sustainable development and poverty eradication goals, from the perspective of both equity and efficiency. For example, gender equality is at the core of the UN's Millennium Development Goals (MDGs), and the Convention on Biological Diversity (CBD) has developed a Gender Plan of Action, recognizing "the vital role that women play in the conservation and sustainable use of biodiversity" and noting that the MDGs "cannot be achieved in isolation. It is not possible to achieve environmental sustainability (goal 7) while poverty (goal 1) and inequities between men and women (goal 3) continue to exist".<sup>13</sup>

<sup>10</sup> <http://cdm.unfccc.int/ProgrammeOfActivities/registered.html>

<sup>11</sup> UN, 1948.

<sup>12</sup> GTZ, 2009.

<sup>13</sup> CBD, 2008.

**Table 1. Gender: A Small Glossary of Terms**

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<b>Gender</b>	A concept that refers to the social differences between women and men that have been learned, are changeable over time and have wide variations both within and between cultures. (European Commission, 1998)
<b>Gender mainstreaming</b>	“Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in any area and at all levels. It is a strategy for making women’s as well as men’s concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of the policies and programmes in all political, economic and societal spheres so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal is to achieve gender equality.” (E.1997.L.10.Para.4. Adopted by ECOSOC 17.7.97)
<b>Gender impact assessment</b>	Examining policy (or project) proposals to see whether they will affect women and men differently, with a view to adapting these proposals to make sure that discriminatory effects are neutralised and that gender equality is promoted. (European Commission, 2001)
<b>Gender equality</b>	The concept meaning that all human beings are free to develop their personal abilities and make choices without the limitations set by strict gender roles; that the different behaviour, aspirations and needs of women and men are considered, valued and favoured equally. (European Commission, 1998)
<b>Gender equity</b>	Fairness in women’s and men’s access to socio-economic resources. Example: access to education, depending on whether the child is a boy or a girl. A condition in which women and men participate as equals and have equal access to socio-economic resources. (European Commission, 1998)
<b>Gender based constraints</b>	Factors that inhibit either men’s or women’s access to resources or opportunities of any type. They can be formal laws, attitudes, perceptions, values, or practices (cultural, institutional, political, or economic). (USAID: women in development)
<b>Gender analysis</b>	Systematic gathering and analysis of information on gender differences and social relations to identify and understand the different roles, divisions of labor, resources, constraints, needs, opportunities/ capacities, and interests of men and women (and girls and boys) in a given context. (USAID)
<b>Empowerment</b>	The process of gaining access and developing one’s capacities with a view to participating actively in shaping one’s own life and that of one’s community in economic, social and political terms. (European Commission, 1998).
<b>Stakeholder</b>	An individual, group or organization that has something to gain or lose from involvement in the development project. Having a stake often implies an element of risk: standing to gain or lose something, and possibly having to make some sort of investment (not necessarily money), in order to obtain benefits from a project. Stakeholders are not simply ‘beneficiaries’. Those who stand to lose from a project are also stakeholders. (Vainio-Mattila, 2001)

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In its *Gender Equality as Smart Economics* report, the World Bank states that the current under-utilisation of women's economic capabilities "is inefficient, since increased women's labor force participation and earnings are associated with reduced poverty and faster growth; women will benefit from their economic empowerment, but so too will men, children and society as a whole."<sup>14</sup> A logical extension of this approach is "smart climate finance", namely the incorporation of gender awareness and gender criteria into climate financing mechanisms and strategies, such as the CDM.<sup>15</sup>

## Gender and Climate Policy

Although it is now widely recognised that climate change and climate policy are not gender-neutral processes, the UNFCCC remains the only Rio Convention without formal recognition of gender perspectives. For nearly a decade, gender issues remained outside the formal process and were advocated by a small group of activists. Kyoto Protocol and its mechanisms did not initially recognize a gender perspective either. The only formal recognition was made at the Marrakech Climate Conference (COP-7) in 2001 when a resolution called for more nominations of women to the UNFCCC and to the bodies under the Kyoto Protocol.

Gender issues reached a new level of attention at the Bali Climate Conference in 2007 when a Global Gender Climate Alliance (GGCA) was established by several UN organizations (UNEP, UNDP) and non-governmental organisations. The GGCA, along with other climate and gender organisations have been active lobbyist, providing position papers and submissions and carrying out research on the gender-sensitivity of climate change. Their joint message is that gender perspective must be an integral part of current and future climate actions with formal status in the process.

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<sup>14</sup> World Bank, 2006, 1

<sup>15</sup> Schalatek, 2009, 13

In 2008, a joint UNDP-GGCA workshop developed gender-based guidelines for climate financing for consideration of the Poznan Climate Conference.<sup>16</sup> In December 2008 in Poznan, the UNFCCC Secretariat formally recognised that 'the gender dimension of climate change and its impacts are likely to affect men and women differently', urged formulation of gender-inclusive policy measures to address climate change and stressed that women 'are important actors and agents of change' in coping with climate change. The UNFCCC Secretariat has also named a gender coordinator and a group of 'gender focal points'.<sup>17</sup>

The Copenhagen Climate Conference in December 2009 (COP-15) disappointed gender lobbyist groups by making no formal reference to gender in the decisions adopted by the Conference.<sup>18</sup>

The discussions to mainstream the gender perspective in the UNFCCC continue in Cancun (COP-16) in December 2010. Gender issues are mentioned in the negotiation text of the Ad Hoc Group on Long-term Cooperative Action, in the context of adaptation, capacity building and reducing emissions from deforestation and forest degradation. The negotiating text also includes a general reference to gender mainstreaming across all UNFCCC issues, 'recognizing the need to engage a broad range of stakeholders at global, regional, national and local levels [...], and that gender equality and the effective participation of women and indigenous peoples are important for effective action on all aspects of climate change'.<sup>19</sup> However, the gender perspective is still absent in the climate change mitigation and finance texts, which are among the most important issues discussed in COP meetings. All in all, there are some signals that gender issues will gain formal status in UN climate policy once a post-2012 climate agreement is reached.

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<sup>16</sup> Nordic Council of Ministers, 2009.

<sup>17</sup> Oldrup & Breengaard, 2009

<sup>18</sup> Genanet, 2010.

<sup>19</sup> UNFCCC, 2010.

Finland has contributed significantly to the promotion of gender issues and involvement of women at the UNFCCC meetings. Finland was awarded the title of “Gender Champion” at the Copenhagen Climate Conference for earmarking 500 000 Euro for funding the participation of developing country women in UNFCCC meetings<sup>20</sup>.

## Gender and Finnish Development Policy

Finland has a significant interest in gender and development issues, especially through the MDGs and the ‘Torch for Gender Equality’ received by Finland’s President Tarja Halonen at the Copenhagen Climate Conference in December 2009. The Torch is an honourable award for a person that is distinguished in promoting gender equality and empowering women.<sup>21</sup> Each Torch-bearer is committed in ‘doing something extra’ in support of gender equality and women’s economic empowerment. This study on gender and CDM, for example, is supported by this MDG 3 Torch commitment.

Gender issues - promotion of the rights and the status of women and girls, and promotion of gender equality and social equality – are also prominent in Finnish development co-operation policy, as one of the a cross-cutting themes that should be mainstreamed into all projects and activities, with a minimum requirement of ‘no harm’.<sup>22</sup>

Although CDM projects are not development co-operation projects as such, they have much in common with development policy, given that one of the main objectives of CDM is promotion of sustainable development in developing countries. The Finnish CDM Authority operates under the supervision of the Department of Development Policy in the Ministry for Foreign Affairs, and has thus many linkages with traditional development co-operation.

<sup>20</sup> Nordic Gender Institute, 2009

<sup>21</sup> President of Finland’s website, 2009

<sup>22</sup> Ministry for Foreign Affairs of Finland, 2007

## Background: CDM and Gender

### Overarching Gender Issues

Manifestations of gender inequalities in the context of sustainable development in developing countries include<sup>23</sup>:

- **Poverty:** Of the 1.2 billion people living on or under the equivalent of one dollar a day, 70 percent are women.
- **Health:** Smoke from poorly ventilated indoor fires accounts for close to 1.6 million premature deaths per year, 60% of which are women and girls.
- **Education:** two-thirds of the world’s illiterate adults are women.
- **Political representation:** women are under-represented in, and have limited access to political decision-making at all levels of society throughout the developing world.

In the context of developing countries, especially poor rural areas, gender inequality often stems from disadvantages that women face due to their traditional gender roles. Examples of gender roles and related gender impacts in CDM-relevant sectors in developing countries include<sup>24</sup>:

- **Energy:** Rural populations across the developing world depend heavily on traditional fuels, mainly fuelwood, dung, charcoal, coal and kerosene. In rural areas, women are traditionally responsible for managing household energy, including the collection and/or purchase of traditional fuels for cooking and lighting. In poor rural areas, reliance on traditional fuels consumes significant amounts of women’s and girls’ time, depriving them of opportunities to use their time and energy more productively, for example for education or income-generation activities and exposing them to health and safety risks (e.g. indoor air pollution, fire hazard, back pain and risk of assaults).

<sup>23</sup> UNDP, 2004; UNESCO, 2010; WHO, 2005.

<sup>24</sup> UNEP, 2004; FAO, 2010a&b.

- **Forestry:** Men and women have different gender roles in forest management and utilisation of forest products. Typically, women practise traditional agro-forestry, prepare and sell wood products in cottage industries, collect firewood and harvest wild plants for food and medicine, while men dominate high-value activities such as timber trade. Deforestation or restricting access to forest products (e.g. through changes in land use or tenure rights) can burden women disproportionately due to their responsibility in meeting household food and fuel needs.
- **Agriculture:** Women produce 60-80 % of the food in developing countries, much of it as subsistence farmers and home gardeners.

Key constraints for achieving greater gender equality in developing countries include<sup>25</sup>:

- **Time constraints**, which limit women's opportunities to improve their education, productivity or income level, or to participate in public events, due to their time-consuming daily chores and responsibilities around the house and in the farm;
- **Household income constraints and restricted ownership and access to capital**, which limit the opportunities of poor households and women to set up income-generation activities (which often require seed money), educate their children, and purchase food, fuel and medicine; and
- **Lack of access to modern, affordable energy services and infrastructure**, which also limit the development opportunities of poor rural households, forcing them to rely on traditional fuels (with negative impacts particularly on women's workload and health) and to ration energy consumption to the bare minimum. Energy-poverty and poor-quality kerosene lighting limit the income-generating opportunities available for households, particularly women whose income-generation activities are typically home-based and energy-intensive.

In summary, women's and girls' gender roles, for example as household energy managers, can cause and maintain gender inequality by disproportionately limiting their opportunities in terms of education, health and income. Gender equality can be promoted by activities that tackle the causes or consequences of these disadvantages, for example by offering alternative energy sources for cooking (more time through reduced need for fuelwood collection) or better lighting (more time through extended possibilities for studying or working). Table 2 summarises women's practical, productive and strategic needs in the context of household energy.

Projects that free up women's time, lighten their workload, improve their health and safety, or offer them income savings, new income-generation opportunities and better working conditions can go a long way in promoting gender equality in terms of poverty alleviation, health, education, empowerment etc. Such improvements in women's lives can, in turn, bring significant benefits for their families and communities, and the wider society. In other words, improvement in women's position promotes gender equality in contexts where women are the disadvantaged gender.

It is important to bear in mind the difference with potential benefits and opportunities on the one hand, and realised impacts on the other. Take electricity as an example: it does not bring benefits to households who cannot afford electric appliances; it can power a television (direct impact) but cannot guarantee awareness or empowerment (indirect opportunity); and it can end up worsening women's workload if, for example, lighting extends women's working hours while cooking still requires time-consuming firewood collection due to prohibitive costs of electricity and electric stoves. At best, however, electricity can offer a way out of poverty and open up new horizons through income-generation opportunities and improved communication and community services.

<sup>25</sup> UNDP, 2004.

**Table 2. Women's Energy Needs<sup>26</sup>**

Energy Form	Women's needs		
	Practical	Productive	Strategic
<b>Electricity</b>	<ul style="list-style-type: none"> <li>- pumping water: reducing need to haul and carry</li> <li>- mills for grinding</li> <li>- lighting improves working conditions at home</li> </ul>	<ul style="list-style-type: none"> <li>- increase possibility of activities during evening hours</li> <li>- provide refrigeration for food production and sale</li> <li>- power for specialised enterprises such as hairdressing and internet cafes</li> </ul>	<ul style="list-style-type: none"> <li>- make streets safer: allowing participation in other activities</li> <li>- (e.g. evening classes and women's group meetings)</li> <li>- open horizons through radio, TV and internet</li> </ul>
<b>Improved biomass (supply and conversion technology)</b>	<ul style="list-style-type: none"> <li>- improved health through better stoves</li> <li>- less time and effort in gathering and carrying firewood</li> </ul>	<ul style="list-style-type: none"> <li>- more time for productive activities</li> <li>- lower cost of process heat for income generating activities</li> </ul>	<ul style="list-style-type: none"> <li>- control of natural forests in community forestry management frameworks</li> </ul>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>- milling and grinding</li> <li>- transport and portering of water and crops</li> </ul>	<ul style="list-style-type: none"> <li>- increases variety of enterprises</li> </ul>	<ul style="list-style-type: none"> <li>- transport: allowing access to commercial and social/political opportunities</li> </ul>

## CDM in Gender Literature

To date, no gender analysis of the Kyoto Mechanisms and their impacts has been undertaken, so the understanding of CDM's gender impacts are currently based on few isolated observations.<sup>27</sup> However, a considerable body of literature exists on the gender impacts of sectors and project types that are eligible under CDM. CDM projects do not represent a new

project category, but instead, CDM is a new financing vehicle for leveraging new and additional funding for virtually any project activity that can generate sufficient volumes of verifiable emission reductions against a credible baseline and bring sustainable development benefits. There is abundant evidence that in many potential CDM sectors – such as energy, agriculture and forestry – gender can be a key determinant of the decision-makers, providers, beneficiaries, users and losers of project

<sup>26</sup> Clancy, 2003.

<sup>27</sup> GenderCC, 2010

investments. Thus, existing sectoral gender impact studies are relevant also to CDM projects in that sector.

A few studies explicitly recognise CDM's potential to promote both mitigation and gender equality benefits, by offering access to a range of beneficial technologies and also by paying for environmental services in natural resource management activities that traditionally involve women. CDM's dual objective of climate mitigation and sustainable development is seen as strong justification for an explicit focus on women and their active involvement. There is general consensus that CDM projects with highest potential for poverty alleviation and gender-positive impacts include small-scale, off-grid renewable energy, household energy, agriculture, small-scale forestry, brick- and charcoal-making, waste management and food processing. It is also noted that these project types are scarce in the current CDM pipeline.<sup>28</sup>

Some observers suggest that the impacts of the carbon markets on women are mainly negative due to market impacts on energy pricing and the world's poor – the majority of them women – are unlikely to benefit from CDM due to restricted access to capital and markets.<sup>29</sup> Others have identified case studies of CDM projects with positive gender impacts.<sup>30</sup> Although most commentators accept that, in theory, CDM could promote the widespread diffusion of renewable energy and energy efficiency solutions with gender-positive benefits, many question the ability of small, dispersed project activities to compete with larger, one-off CDM investments in practice. Women's groups fear that leaving host countries to define SD criteria for CDM may lead to approval of CDM projects with harmful environmental and social impacts.<sup>31</sup>

Many commentators express their disappointment over CDM's failure thus far to fully meet expectations of generating broad-based benefits or addressing the needs of the poorest, especially poor women. Since the world's poor cause few emissions, they inevitably also have low emission reduction potential. Thus, the considerable share of CDM projects focus on large emitter countries and industrial-scale activities. While such projects offer sustainable development benefits at the host country level, in line with CDM's sustainable development mandate, they may generate limited or no benefits to least-developing countries, local communities and women. This is commonly attributed to CDM's market-based nature and a narrow mindset of keeping climate change mitigation isolated from global development objectives.<sup>32</sup>

Observers agree that there is evidence of targeting of women in rural CDM projects such as household energy, agricultural and food processing and forest management. However, concerns have been raised about ensuring the appropriateness of the selected technology in cases where women are not consulted during projects planning. For example, poorly designed biogas stoves can increase, rather than decrease, women's workload. Biofuels and other projects involving land-use changes can impact biodiversity, ignore customary rights of indigenous peoples and compete with food production. This may harm women more than men, since women are more dependent on collective lands for livelihood and in many places, struggle to obtain land titles and access to credit. Structural barriers, such as lack of education and training, might limit women's benefits from new entrepreneurial opportunities linked with CDM projects as well as their awareness of available mitigation options such as energy-efficient appliances.<sup>33</sup>

Some observers also point out that challenges related to CDM methodologies can undermine the CDM viability of certain

<sup>28</sup> Schalatek, 2009; Lambrou & Piana, 2006a; UN, 2009; GenderCC, 2010.

<sup>29</sup> GenderCC 2010; Röhr, 2008b.

<sup>30</sup> Schalatek, 2009.

<sup>31</sup> Lambrou & Piana, 2006a.

<sup>32</sup> Schalatek, 2009; Röhr, 2008b; GenderCC, 2010.

<sup>33</sup> Lambrou & Piana, 2006a; Röhr, 2008a&b; BRIDGE, 2008; Clancy et al., 2004.

gender-relevant project types, such as sustainable use of biomass and charcoal, forestry, biofuel and transport, as well as projects that tackle suppressed energy demand.<sup>34 35</sup>

For CDM to fulfill its potential, commentators call for improvement of its accessibility to small, community-based initiatives and processes to better ensure that project developer also listen to women and poor when designing projects (for them). Greater development-orientation and gender-inclusiveness would imply a increasing focus on small-scale, off-grid projects such as mini-hydro, biomass or solar energy generation or small-scale afforestation and reforestation. Participating governments could include gender considerations into their CDM criteria. Recommendations related to the CDM cycle include reduced transaction costs and simplified procedures for small-scale projects, possibility for aggregation and bundling of individual project activities, and development of a standardised approach with pre-approved baselines.<sup>36</sup> The latter is under discussion and the former are already implemented.

Some women's groups oppose the establishment of any new market mechanisms. For existing mechanisms, they recommend setting the Gold Standard as a minimum standard for all projects.<sup>37</sup> Other studies, however, conclude that women can benefit from CDM projects, but highlight the need for a gender analysis of market-based approaches so that these opportunities can be promoted, replicated and scaled up.<sup>38</sup>

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<sup>34</sup> Suppressed energy demand refers to a situation where energy consumption is restricted by energy poverty or lack of modern infrastructure rather than low energy demand per se. Rural electrification unleashes the 'true' energy demand by increasing energy access, leading to higher energy demand compared with the pre-project situation. Some argue that the project's emission reduction impact should not be measured relative to the pre-project energy consumption level, which is suppressed by energy poverty, but rather a 'fair' baseline that reflects the emission level of meeting the energy needs with the most likely alternative energy system. (see e.g. Figueres & Bosi, 2006).

<sup>35</sup> Lambrou & Piana, 2006b.

<sup>36</sup> Schalatek, 2009; Lambrou & Piana, 2006a.

<sup>37</sup> Röhr, 2008a&b; GenderCC, 2010.

<sup>38</sup> UN, 2009

# Developing the CDM Gender Spectacles Tool

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**This chapter reviews the existing framework relevant to CDM in the context of the gender perspective, including host country sustainable development (SD) criteria for CDM projects and gender mainstreaming tools for investment projects in the energy, forestry and other sectors relevant to CDM. Next, a two-step tool is developed to identify and assess potential gender-positive impacts of CDM project types and project activities. This tool is applied to CDM project types and actual projects in Chapter 4.**

## Assessing CDM's Sustainable Development Impacts

### CDM Sustainability Criteria

According to the CDM rules and guidelines, it is the prerogative of the host country to assess whether a proposed CDM project activity assists in achieving sustainable development (SD) in the national context. Thus, host countries can define their own SD criteria and assess CDM project applications against these criteria. All CDM projects require host country approval in order to be registered as CDM projects. Some host countries, most notably China, have not published their CDM SD criteria.

Host country SD criteria are typically divided into environmental, economic and social criteria. Some host

countries, such as India<sup>39</sup>, Thailand<sup>40</sup> and Bangladesh<sup>41</sup>, also use technological criteria. Social SD criteria are most relevant when assessing impacts on gender equality, so they are discussed in more detail below.

Several host countries' social SD criteria include a direct or indirect reference to gender issues. Bangladesh and South Africa<sup>42</sup> are examples of host countries that make direct reference to gender considerations in their SD criteria. Bangladesh's criteria include a general reference to gender equality, while South Africa's criteria mention gender and racial equality only in the context of employment impacts. However, although gender is explicitly mentioned in these criteria, it is usually the last or least weighted criteria. Bangladesh, for example, assigns a 5% weight to gender issues in the overall assessment.

Indirect reference to gender issues can be found in many countries SD criteria. These countries include for example Brazil<sup>43</sup>, Thailand and India. Most countries with published SD criteria refer to the quality of life of the local people including health and safety, employment opportunities (which can also be for women), enhancement of stakeholder participation (which can also include women's participation opportunities), promoting equality and more equal distribution of income. Table 3 summarises relevant SD criteria of selected host countries.

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<sup>39</sup> Ministry for Environment and Forests of India, 2010

<sup>40</sup> Thailand Greenhouse Gas Management Organization, 2010

<sup>41</sup> Ministry for Environment and Forest of Bangladesh, 2010

<sup>42</sup> Department of Minerals and Energy of South Africa, 2010

<sup>43</sup> Ministry for Science and Technology of Brazil, 2010

**Table 3. Gender-Relevant Sustainable Development Criteria of Selected CDM Host Countries**

Criteria	Bangladesh (weight/100p)	South Africa	Brazil	India (SD indicators)	Thailand
<b>Economic</b>	<ul style="list-style-type: none"> <li>• balance of payment 15p</li> <li>• contribution to macro economy 10p</li> <li>• cost effectiveness 10 p</li> </ul>	<ul style="list-style-type: none"> <li>• economic impacts</li> <li>• appropriate technology transfer</li> </ul>	<ul style="list-style-type: none"> <li>• contribution to regional</li> <li>• integration and linkages with other sectors</li> </ul>	<ul style="list-style-type: none"> <li>• should bring in additional investment consistent with the needs of the people.</li> </ul>	<ul style="list-style-type: none"> <li>• increasing income of stakeholders (workers etc)</li> <li>• energy use and efficiency</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• reduction of GHGs 15 p</li> <li>• reduction of pollutants (including waste) 15 p</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on local environmental quality</li> <li>• change in usage of natural resources</li> <li>• impacts on biodiversity and ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• contribution to local environmental sustainability (waste, effluents, pollutants)</li> </ul>	<ul style="list-style-type: none"> <li>• impact on resource sustainability and degradation</li> <li>• biodiversity, human health, pollution levels</li> </ul>	<ul style="list-style-type: none"> <li>• reduction of GHGs and pollutants, noise and odor</li> <li>• wastewater quality, waste management</li> <li>• natural resources: water demand, erosion, ecosystem &amp; species diversity, GMOs</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• employment opportunities 12 p</li> <li>• improved quality of life (health, sanitation) 8 p</li> <li>• take into consideration gender issue/<u>gender equity</u> 5p</li> </ul>	<ul style="list-style-type: none"> <li>• alignment with national provincial and local development priorities</li> <li>• social equity and poverty alleviation, including:                             <ul style="list-style-type: none"> <li>- <u>impact on employment levels (incl. gender/racial equity)</u></li> <li>- impact on community social structures and social heritage</li> <li>- impact on social amenities</li> <li>- contribution to development or underdeveloped areas</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to improvement of labor conditions and net job creation</li> <li>• Contribution to the distribution of income</li> <li>- assess direct and indirect effects on the quality of life of low-income populations</li> </ul>	<ul style="list-style-type: none"> <li>• project should lead to alleviation of poverty by generating additional employment, removal of social disparities and contribution to provision of basic amenities to people leading to improvement in quality of life of people.</li> </ul>	<ul style="list-style-type: none"> <li>• people's participation</li> <li>• activities promoting social development &amp; culture</li> <li>• worker's health and surrounding community health</li> </ul>
<b>Technological</b>	<ul style="list-style-type: none"> <li>• technology easily adaptable 5 p</li> <li>• technology promotes sustainable use of natural resources</li> </ul>			<ul style="list-style-type: none"> <li>• environmentally safe and sound technology transfer</li> <li>• comparable to best practices</li> </ul>	<ul style="list-style-type: none"> <li>• technological development</li> <li>• post project implementation plan</li> <li>• capacity building</li> </ul>

Gender-specific criteria underlined.

Host country SD criteria offer an entry point for host countries to encourage gender-positive impacts of CDM projects, if they so wish. If a country implements gender-positive policies in CDM-relevant sectors, gender considerations can also be included in the assessment of CDM project applications. This has not been usual practice to date, but ongoing efforts of mainstreaming gender issues into development policies and programmes<sup>44</sup> may well be reflected also in host country SD criteria in the future.

CDM projects also require investor country approval. This provides an entry point for investor countries to set their own SD criteria (including gender aspects) for CDM project applications, if they so wish. However, few investor countries have set additional national criteria for CDM projects; most prefer to rely on the host country assessment. The Netherlands is one of the few countries with some national criteria for CDM project applications: project participants must demonstrate that the project does not have large-scale adverse effects on society or biodiversity in the host countries, and they must observe the 'OECD Guidelines for Multinational Enterprises'.<sup>45</sup>

Finland's Law on the Use of Kyoto Mechanisms<sup>46</sup> advises that the CDM project applicants must comply with the international co-operation principles approved by Finland and international law, but does not specify any sustainable development criteria. However, the objective of Finland's Development Policy Programme<sup>47</sup> is the eradication of poverty and promotion of sustainable development, in accordance with the MDGs, which in turn include the promotion of gender equality. Gender equality is also a cross-cutting theme in Finnish development co-operation.

Finally, buyers of carbon credits can set their own criteria for CDM procurement. A prominent example is the World Bank's Community Development Carbon Fund (CDCF), which gives

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<sup>44</sup> OSAGI, 2010

<sup>45</sup> OECD, 2008

<sup>46</sup> Finlex, 2007

<sup>47</sup> Ministry for Foreign Affairs of Finland, 2007

preference to small-scale CDM projects and requires projects to improve the material welfare of the involved communities.<sup>48</sup> CDM funds managed by multilateral development banks (e.g. World Bank and Asian Development Bank) often apply the banks' own sustainable development criteria and policies, such as 'safeguard policies' or 'codes of conduct' when assessing the environmental and socio-economic impacts of prospective CDM projects.

No host or investor country require that sustainable development benefits, as described in the PDD, are monitored (and verified) in the same way as the emission reductions are.<sup>49</sup> Thus, it is difficult to assess whether projects actually generated the SD benefits listed in the PDD. The only projects that are committed to monitoring their SD benefits are Gold Standard CDM projects, which are discussed in more detail below.

### **CDM Gold Standard Criteria**

The Gold Standard is a voluntary standard for CDM and other emission reduction project developers who want to emphasize the sustainable development benefits of their projects. The Gold Standard was created by a group of non-governmental organizations, including WWF, in 2003. Only renewable energy and end-use energy efficiency projects are eligible for Gold Standard. The standard aims to generate added value to the projects (including a price premium for carbon credits) by accepting only premium-quality projects in terms of sustainable development impacts to the community. As of October 2010, there were 26 CDM projects registered as Gold Standard projects.

The impacts of prospective Gold Standard projects are assessed and monitored with a special Gold Standard toolkit, including a sustainable development matrix, a 'Do No Harm' assessment, additional stakeholder consultation guidelines

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<sup>48</sup> World Bank, 2009

<sup>49</sup> Olsen & Fenhann, 2006

and a sustainability monitoring plan. First, the ‘Do No Harm’ assessment is carried out to identify possible breaches of the principles of human rights, labor standards, environmental protection and anti-corruption, as well as to list mitigation measures for possible breaches. Next, prospective projects are assessed against a series of twelve sustainable development indicators in three categories: environment, social development and economic and technological development. These indicators form a detailed sustainable development matrix (SD matrix). The social development category in the SD matrix includes a ‘human and institutional capacity’ indicator, under which gender issues are listed (see Table 4). The Gold Standard also requires extensive stakeholder consultations, whereby the local community defines the most important indicators for the social, economic and environmental impacts of the project in question.

**Table 4. Gender-Specific Gold Standard Criteria<sup>50</sup>**

Social development		
Indicator	Description	Possible parameters
<b>Human and institutional capacity</b>	<p>Human and institutional capacity refers to changes compared to the baseline in:</p> <ul style="list-style-type: none"> <li>• <b>Education &amp; skills:</b> Access to primary, secondary and tertiary schooling as well as Female combined gross enrolment ratio for primary, secondary and tertiary schools, affordability and quality of education.</li> <li>• <b>Gender equality:</b> Livelihood and education for women that may include special schooling opportunities as well as other woman-specific training, awareness-raising, etc.</li> <li>• <b>Empowerment.</b> Changes in the social structure, e.g. caused by a change in the distribution of income and assets. This may result in shifts in decision-making power at project level (e.g. participation in project executive board, ownership of CERS etc.), community level (e.g. community council) or at a higher level.</li> </ul>	<ul style="list-style-type: none"> <li>• Female combined gross enrolment ratio for primary, secondary and tertiary schools</li> <li>• Female Adult literacy rate</li> <li>• Change in female earned income</li> <li>• Change in number of jobs and positions for women</li> <li>• Change in decision-making structures at the community, local government levels</li> <li>• Change in income and asset distributions by region, ethnicity, religion, and socio-economic groups</li> <li>• Women in government or decision making groups at community, regional, ministerial levels</li> </ul>

Besides the explicit gender-specific criteria, also other SD impacts can often – although not automatically – promote gender equality. These criteria include for example better indoor air quality (for example due to reduced coal or wood combustion), which benefits especially women due to their role in cooking and as the household energy manager. Also, access to affordable and clean energy services and quality of employment conditions can, in some cases, promote gender equality.<sup>51</sup>

### CDM’s Sustainable Development Impacts

The sustainable development impacts of CDM projects have been studied extensively.<sup>52</sup> However, most studies focus on the general question of whether CDM has SD benefits, and if not, why not. Although CDM encompasses a wide range of technologies whose SD impacts can vary widely, few studies classify SD impacts according to project types. Findings point to the general

<sup>50</sup> Adapted from the Gold Standard Sustainable Development matrix (Gold Standard Toolkit (v 2.1), Annex I)

<sup>51</sup> Gold Standard, 2009.

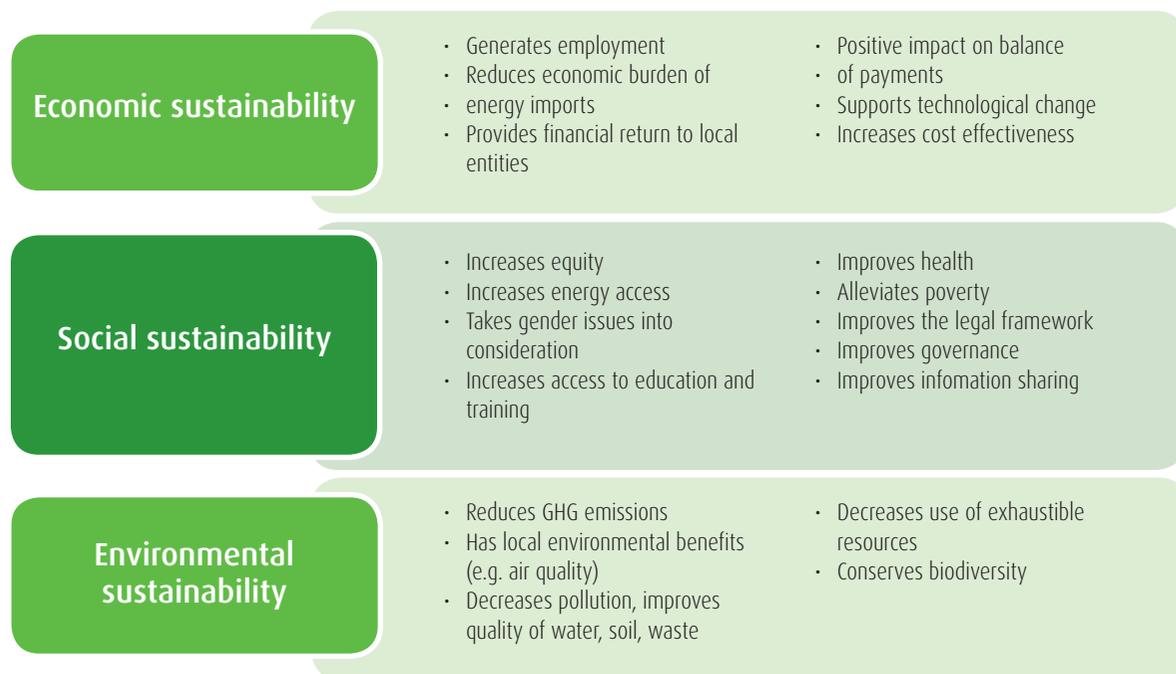
<sup>52</sup> Olsen, 2005; Olhoff et al., 2004; Olsen & Fenhann, 2006; Scheider, 2007; Begg et al., 2000.

observation that project types with highest emission reduction potential, such as industrial gas projects, typically have modest local SD benefits.

However, this issue is now being tackled with programmatic CDM, which has the potential to generate both large-scale emission reductions and significant SD benefits on household level (see Section 2.1.3). In terms of project-based CDM, renewable energy and energy efficiency projects have the most significant potential to generate economic and social benefits to the local community. Some general potential impacts of CDM projects are listed in Figure 2.

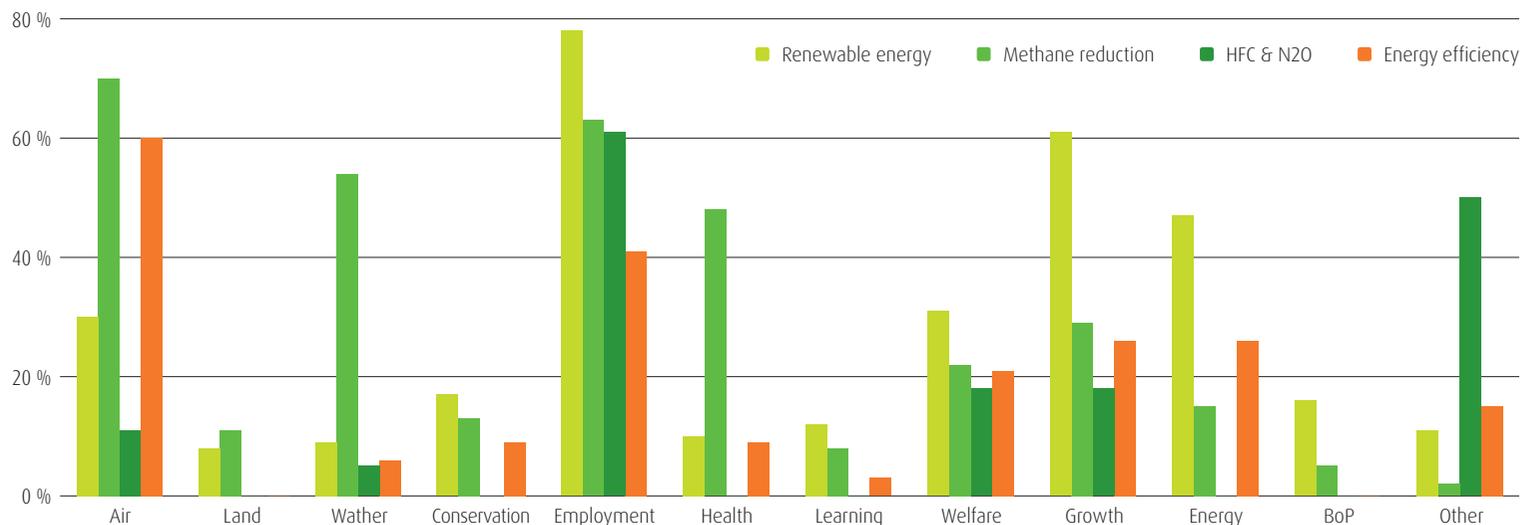
As this study concentrates on potential gender impacts of CDM projects, we focus on the social sustainability impacts assessed in the literature. Social sustainability (as defined in Figure 2) consists of several aspects, of which most – such as equity, poverty, energy access and education – have different impacts on women and men. The few studies that assess sustainable development benefits of CDM projects in terms of project types indicate that CDM project types with highest social SD benefits are household-level and off-grid renewable energy projects. SD benefits of popular CDM project types are summarised in Figure 3.

**Figure 2. Potential Sustainable Development Benefits of CDM projects<sup>53</sup>**



<sup>53</sup> Adapted from Olhoff et al., 2004.

**Figure 3. Sustainable Development Benefits of CDM projects<sup>54</sup>**



<b>Environmental benefits</b>	Air	Outdoor air quality improvement
	Land	Soil/land quality improvement
	Water	Water quality improvement
	Conservation	Reducing deforestation etc.
<b>Social benefits</b>	Employment	Also informal, indirect and part-time employment included
	Health	Indoor air quality improvement etc.
	Learning	Capacity development, increasing know-how
	Welfare	Access to hot water etc, tax benefits used for public service purposes
<b>Economic benefits</b>	Growth	Income generation at company, sector, industry or country level
	Energy	Improved access to energy/electricity
	BoP	Improvements in the Balance of Payments
	Other	Other impacts

<sup>54</sup> Adapted from Olsen & Fenhann, 2006.

Many studies on CDM's sustainable development impacts conclude that CDM has significant potential to promote sustainable development in the host countries but that this potential has not been fully realised.<sup>55</sup> Most studies attribute this to the lack of international or national indicators or monitoring processes to measure the projects' actual contribution to sustainable development. While the monitoring and independent verification of emission reductions is at the core of the CDM procedures, the monitoring of sustainable development impacts depends on voluntary initiatives, such as the Gold Standard. This inevitably, and possibly unintentionally, prioritizes emission reductions over the sustainable development goals.

Furthermore, the projects' emission reductions fetch a monetary unit price at the carbon markets which are driven by legally binding emission targets and backed by UN-level procedures for accounting and verification. To break even, CDM projects must generate enough emission reductions to cover the CDM-related transaction costs, and to achieve CDM status, the significance of CDM revenue must be demonstrated. By contrast, the projects' sustainable development impacts are not typically rewarded in monetary terms, although some buyers are willing to pay a premium for projects with high sustainable development benefits. To achieve CDM status, the existence of some sustainable development benefits merely needs to be confirmed in writing by the host country, against varied national criteria.

However, it could also be argued that literature on CDM's sustainability development impacts underestimate the actual SD benefits of CDM projects and might even dismiss some benefits as irrelevant. The SD benefit literature often concentrates on impacts on local communities, while downplaying macro-level impacts. In the literature, 'local' and 'national' SD benefits are often used interchangeably, although the CDM's SD objective refers to achieving sustainable development at host-country level and does not make explicit reference to local communities. In most cases,

<sup>55</sup> Olsen, 2005 ; Olhoff et al., 2004; Schneider, 2007

CDM projects create employment opportunities both directly and indirectly, provide additional income to host country project participants, contribute to the host country's transition into a climate-friendly economy, reduce the host country's dependency on fossil fuel imports, and generate tax revenues to the host country via taxing of carbon credits and/or higher profits of companies that have benefitted from CDM (e.g. China in the case of HFC-23 projects). These are all relevant aspects of sustainable development, but they may sometimes be overlooked or downplayed when assessing the overall SD contribution of CDM.

## Assessing Gender Impacts

Gender Action Plans describe an organisation's strategy for promoting gender equality and mainstreaming gender considerations into their operations. Gender Action Plans can also be prepared for individual projects. Most UN and other multilateral organisations, multilateral development banks, governments and development agencies have published Gender Action Plans, as have the Global Environment Facility and the Convention on Biological Diversity.<sup>56</sup> In fact, the UNFCCC is the only Rio Convention that still lacks a Gender Action Plan, although work towards formulating 'gender inclusive policy measures to address climate change' has started.<sup>57</sup>

Gender analysis is the main tool for gender mainstreaming and for understanding the circumstances, strengths and needs of the women and men whose lives are impacted by the policy or project in question.<sup>58</sup> By gaining insight to local dynamics and assessing the gender impacts of the planned intervention, a gender analysis enables the designing of activities and policies that are relevant and beneficial to both women and men.<sup>59</sup>

<sup>56</sup> GEF, 2008; CBD, 2008.

<sup>57</sup> Oldrup & Breengaard, 2009.

<sup>58</sup> Vainio-Mattila, 2001.

<sup>59</sup> SDC, 2003.

## Table 5. Rapid Gender Analysis<sup>60</sup>

The Finnish Ministry for Foreign Affairs has been developing a rapid gender analysis to be used in assessing all potential development co-operation project ideas.

In the rapid gender analysis the following questions should be answered:

- Do the terms of reference explain clearly how gender issues are to be analysed in this context?
- Has a gender equality analysis been carried out in terms of the causes, consequences and dynamics of poverty, division of labour, access to resources, decision making, supporting services, needs and opportunities? Is there adequate information in the document on the different situation of men and women?
- Are gender issues mainstreamed and treated evenly throughout the document or are they treated as a separate issue?
- Is the relevant information in the document gender disaggregated?
- What does the information tell us?

Gender analysis is widely applied at various levels from global treaties and multilateral development banks to national and sectoral policy and project design. For example, the Asian Development Bank has conducted rapid gender assessments on loans in selected developing countries and mainstreamed gender analysis into all loans and grants.<sup>61</sup>

Ideally, gender analysis is integrated into existing planning, implementation, monitoring and evaluation analyses and processes, but it can also be conducted separately. There is an abundance of gender analysis manuals, checklists and analytical frameworks, such as gender impact assessment, rapid gender analysis and SWOT<sup>62</sup> analyses for different contexts and sectors.

Gender analysis requires gender-disaggregated data which forms the basis for analytical work in the given context, including:

- Identifying relevant stakeholders and ensuring that all affected parties have opportunities to participate in the stakeholder process;

- Identifying women's and men's gender roles and responsibilities;
- Understanding women's and men's access to, and control over resources, and other relevant constraints and capabilities; and
- Recognising women's and men's practical and strategic gender needs and priorities; and
- Identifying indicators for monitoring and evaluating gender impacts.

Gender impact assessment aims to compare and assess, against gender-relevant criteria, the pre-project situation (baseline) and the expected impacts of the proposed policy or project.

## The CDM Gender Spectacles Tool

Based on the review on CDM's sustainable development impacts and gender assessment tools, a two-step Gender Spectacles Tool was developed for the specific exercise of identifying CDM projects' potential gender-positive impacts. It is important to note that the Tool does not attempt to replace a case- and context-specific gender analysis. The purpose of the Tool is to identify CDM project types that may have potential for generating some well-documented gender-positive impacts.

The Tool is suitable for a rapid, preliminary screening of popular CDM project types and also individual CDM projects in cases where data on the project's local impacts is scarce and gender-disaggregated data unavailable. The Tool tackles the lack of data by relying on a set of standard, well-documented assumptions to construct a few generic 'gender baselines' against which to compare the potential impacts of CDM projects (see Section 2.3).

The Tool focuses on local sustainable development impacts of CDM projects; national macro-level impacts are excluded as their

<sup>60</sup> Vainio-Mattila, 2001.

<sup>61</sup> ADB, 2010a&b.

<sup>62</sup> SWOT stands for Strengths, Weaknesses, Opportunities, Threats

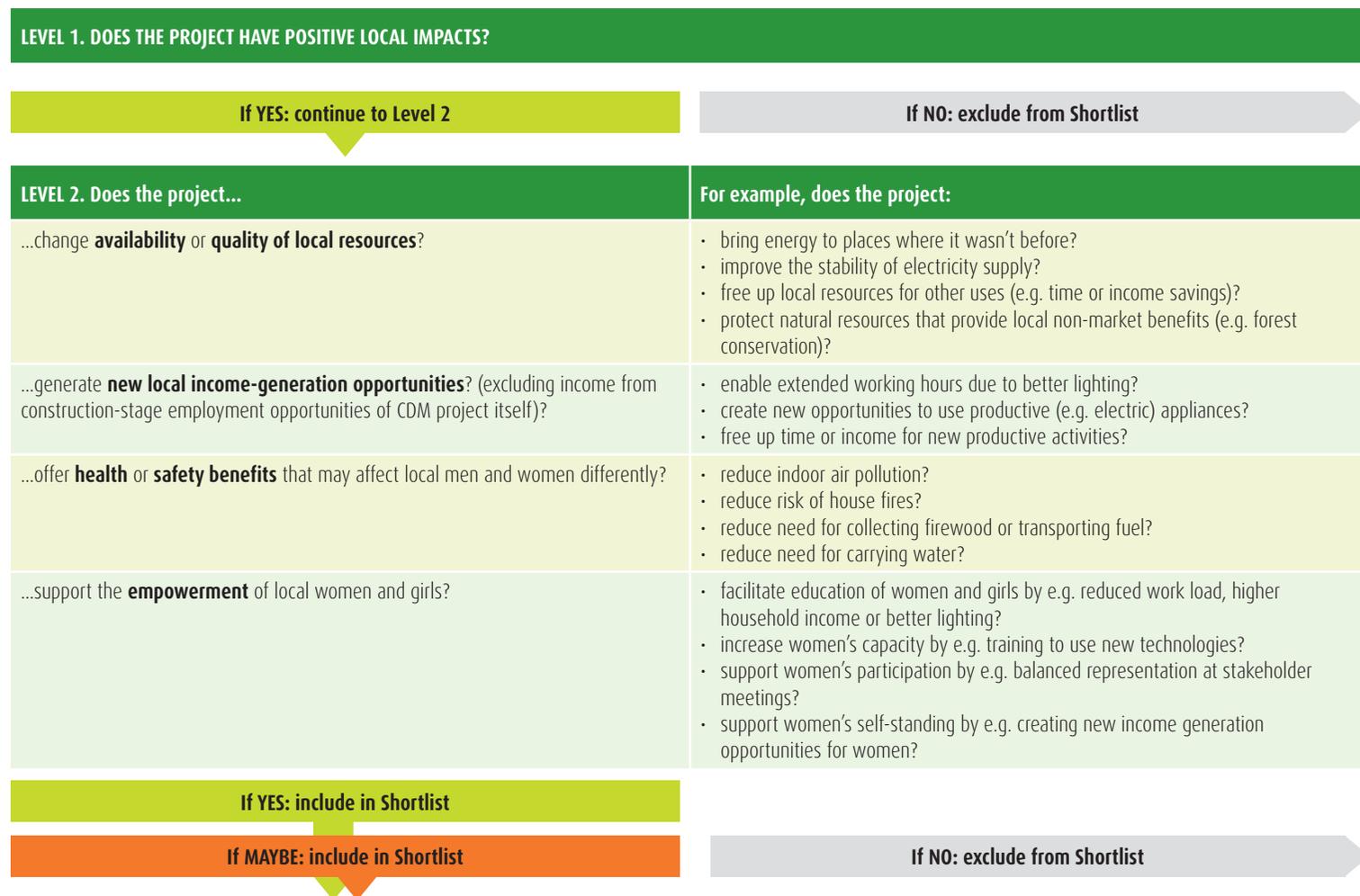
gender linkages, while potentially significant, can be complex and highly context-specific.

Given its reliance on generic baselines, the Tool cannot analyse case- and context-specific gender impacts nor assess the

likelihood of realising identified opportunities in a specific context.

Steps 1 and 2 of the Tool are presented in Figure 4 and Figure 5, respectively.

**Figure 4. Step 1: Questions for Shortlisting CDM Project Types**



**Figure 5. Step 2: Questions for Analyzing CDM Projects of Shortlisted Project Types**

LEVEL 3. Does the project...	Answer each of these sub-questions: YES / MAYBE / NO
...reduce time normally used in household chores?	<ul style="list-style-type: none"> <li>a) reduce time used in fuel wood gathering?</li> <li>b) reduce time used in carrying water?</li> <li>c) make household cleaning easier and quicker?</li> </ul>
...have an impact on household energy costs and availability?	<ul style="list-style-type: none"> <li>a) making energy cost-free to the household?</li> <li>b) reducing energy costs in the long run?</li> <li>c) increase energy access of households or make energy generation more stable?</li> </ul>
...generate possibilities to create additional income?	<ul style="list-style-type: none"> <li>a) by increasing or improving lighting in households?</li> <li>b) by freeing time from other activities?</li> <li>c) by creating jobs for women?</li> <li>d) by providing new or more stable energy for cottage industries?</li> </ul>
...improve conditions of children and women to study?	<ul style="list-style-type: none"> <li>a) by increasing lighting in households or schools?</li> <li>b) by increasing household income thus giving women/children more opportunities for schooling?</li> </ul>
...generate health benefits?	<ul style="list-style-type: none"> <li>a) by reducing indoor pollution?</li> <li>b) by reducing the risk of house fires?</li> </ul>
...natural resources that provide local non-market benefits?	<ul style="list-style-type: none"> <li>a) by conserving forest areas?</li> <li>b) by improving plant growth (generating fertilizer/soil)?</li> </ul>



# Potential Gender-Positive Impacts of CDM

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This chapter applies the Gender Spectacles Tool firstly to compile a shortlist of CDM project types with possible gender-positive impacts, and secondly to analyse in more detail a selected sample of actual CDM projects representing shortlisted project types. Results are presented in the end of this chapter, and discussed in more detail in the next chapter.

## Result of Step 1:

### Shortlist of CDM Project Types

In step 1, all CDM project types<sup>63</sup> were screened against some basic questions about the project type's generic sustainable development impacts. Project types fall into one of three categories:

1. **GREY:** project types that have no potential gender-positive impacts;
2. **ORANGE:** project types that may have potential gender-positive impacts; and
3. **GREEN:** project types that have potential gender-positive impacts.

Figure 6 presents the shortlist of CDM project types with potential gender-positive impacts. Solar and household energy efficiency were identified as 'green' project types across all sub-types (solar PV, solar thermal, solar cooking; efficiency lighting, efficient stoves and efficient appliances). In addition, district heating and composting were identified as 'green' sub-types (of energy distribution and methane avoidance, respectively). The majority of project types were identified as 'orange', meaning that they may have potential gender-positive impacts but this potential may vary across sub-types and local context. For example, renewable energy and energy efficiency project categories cover a wide range of activities with different scales, from isolated solar home systems to large-scale grid-connected power plants and industrial energy efficiency programmes, whose impacts are highly country- and context-specific.

The results illustrate the difficulty of making generalisations on something as context-specific as gender impacts, and also highlight the need for considering gender issues on a case-by-case rather than project-type basis.

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<sup>63</sup> using the categorisation of UNEP Risoe 2010.

**Figure 6. Shortlist of CDM Project Types**

POTENTIAL DIRECT LOCAL GENDER-POSITIVE IMPACTS?		
<p>YES</p> <p>EE households Solar</p>	<p>MAYBE</p> <p>Agriculture Biomass energy Coal mine/bed methane Energy distribution EE industry EE own gen EE Services Forests Geothermal Hydro Landfill gas Methane avoidance Transport Wind</p>	<p>No</p> <p>Cement EE supply-side Fossil fuel switch Fugitive HFCs N2O PFCs+SF6</p>

## Result of Step 2: Analysis of a Sample of CDM Projects

Based on the results of Step 1, nine shortlisted sub-types were selected and 1-2 real CDM projects of each sub-type were chosen for further analysis. The aim of this exercise was to find as much project-specific information as possible on selected sub-types, rather than carry out a representative survey of CDM project types based on scarce data.

Sub-types were chosen in consultation with the Ministry for Foreign Affairs, reflecting expectations of high potential gender-positive impacts. The study focuses on project activities that target rural off-grid households whose face similar circumstances across developing countries, thus largely avoiding country-specific considerations. CDM case studies were chosen from relatively advanced-stage projects, on the basis of availability

of relevant data. Gold Standard projects were selected to the extent possible, due to their comprehensive sustainable development impact assessment and specific reference to gender. Special efforts were also made to include CDCF projects and projects with Finnish involvement in the sample. Several PoAs were also included in the sample, due to their potential to deliver household-level sustainable development benefits and to simultaneously generate a significant amount of emission reductions. Programmatic CDM was designed specifically to promote small, dispersed activities, and around half of the PoAs currently registered or in validation target households.

Table 6 summarises key information on the project sample. Half of the projects are already registered as CDM projects, seven are at various stages of the Gold Standard process, four are PoAs, four have Finnish involvement, and one is contracted by CDCF.

**Table 6. Information on the Project Sample**

CDM project name	Project type	Host country	UNFCCC ref.	Status	Finland involved	GS / CDCF status	
1	Philippine CFL Distribution Project	EE households: lighting	Philippines	PoA n/a	In PoA validation	ERPA with APCF	none
2	CUIDEMOS Mexico (Campana De Uso Inteligente De Energia Mexico) – Smart Use of Energy Mexico	EE households: lighting	Mexico	PoA 2535	Registered as PoA	no	GS registered
3	Efficient fuel wood stoves for Nigeria	EE households: stoves	Nigeria	2711	Registered	no	GS registered
4	Efficient Fuel Wood Cooking Stoves Project in Foothills and Plains of Central Region of Nepal	EE households: stoves	Nepal	n/a	In validation	no	GS listed
5	Federal Intertrade Haiyuan Solar Cooker Project	Solar: cooking	China	3520	Registered	no	GS listed
6	Ningxia Federal Solar Cooker Project	Solar: cooking	China	2924	Registered	Bilateral ERPA	none
7	SASSA Low Pressure Solar Water Heater Programme	Solar: water heating	South Africa	PoA n/a	In PoA validation	no	none
8	Installation of Solar Home Systems in Bangladesh	Solar: home system	Bangladesh	PoA n/a	In PoiA validation	no	CDCF
9	D.light Rural Lighting Project	Solar: PV	India	2699	Registered	no	GS registered
10	Rural Education for Development Society (REDS) CDM Photovoltaic Lighting Project CDM Project	Solar: PV	India	2279	Registered	no	GS listed
11	West Nile Electrification Project (WNEP)	Off-grid renewables	Uganda	775	Registered	ERPA with PCF	none
12	Community-Based Renewable Energy Development in the Northern Areas and Chitral (NAC), Pakistan	Off-grid renewables	Pakistan	1713	Registered	no	CDCF
13	Jatropha curcas Cultivation in the Democratic Republic of Congo	Biomass/biofuels	Congo	n/a	In validation	no	none
14	Biodiesel production and sale from dedicated Jatropha Curcas plantations in the Democratic Republic of Congo	Biomass/biofuels	Congo	n/a	In validation	no	none
15	Hunan Household Biogas Digester Programme	Methane: Household biogas	China	PoA n/a	In PoA validation	Bilateral ERPA	none
16	Kolar Biogas Project	Methane: Household biogas	India	n/a	In validation	no	GS listed
17	Composting of Organic Waste in Dhaka	Methane: Composting	Bangladesh	169	Registered	no	none
18	Gianyar Waste Recovery Project	Methane: Composting	Indonesia	n/a	In validation	no	none

**Table 7. Identified Potential Gender-Positive Impacts of Selected CDM Projects**

**Does the project:**

V = yes (V) = some/maybe

Project number:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>1. reduce time normally used in household chores?</b>																		
a) reduce time used in fuel wood gathering?			V	V				V				(V)		V	V	V		
b) reduce time used in carrying water?																		
c) make household cleaning easier and quicker?			V	V	V	V	(V)	V		V		V			V	V		
<b>2. have an impact on household energy costs and availability?</b>																		
a) making some energy service cost-free to households?					V	V	V											
b) reducing energy costs in the long run?	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V		
c) increase energy access of households or make energy generation more stable?					V	V	V	V	V	V	V	V		V		V		
<b>3. generate possibilities to create additional income?</b>																		
a) by increasing/improving lighting in households?								V	V	V								
b) by freeing time from other activities?			V	V				V	(V)						V	V		
c) by creating jobs for women?				V				V					V	V			V	V
d) by providing new/stable energy for cottage industries?								V	V		V	V						
<b>4. improve conditions of children and women to study?</b>																		
a) by increasing lighting in households / schools?								V	V	V	(V)	V		V				
b) by increasing household income thus giving women/ children more opportunities for schooling?	V	V	V		V	V			V	V				V		V		
<b>5. generate health benefits?</b>																		
a) by reducing indoor pollution?			V	V	V	V		V	V	V	(V)	V			V	V		
b) by reducing the risk of house fires?			V	V	V	V		V	V	V		V			V	V		
<b>6. protect natural resources that provide local non-market benefits?</b>																		
a) by conserving forest areas			V	V								(V)	V	V		V		
b) by improving plant growth (generating fertilizer/soil)?				V									(V)	(V)	V	V	V	V
<b>Stakeholder consultations:</b>																		
Is women's participation as stakeholders documented?			V	V	V					V						V	V	
<b>Are the impacts identified in the documentation?</b>																		
a) Are most of the impacts identified in the PDD?	(V)	(V)	V	V	(V)	(V)	(V)	V	V	V	(V)	V	V	(V)	(V)	(V)	V	(V)
b) in other documents (GS)?			V	V	V				V	V						V		
b) Were they identified as gender impacts?				V				V	(V)	(V)		(V)				(V)	(V)	(V)

**Table 8. Potential Gender-Positive Impacts of Selected CDM Projects**

Project type	Conventional CDM Perspective		Gender Perspectives of CDM Projects	
	CDM baseline	After project	Gender baseline	After project
<b>EE households: Lighting</b>	Use of inefficient incandescent light bulbs, which consume lots of fossil fuel-based electricity which, in turn, causes carbon dioxide (CO2) emissions and local air pollution.	Use of CFL lamps increases energy efficiency, and thus reduces need for fossil fuel-based energy production in power plants, reduces CO2 emissions and improves outdoor air quality.	<b>Income:</b> High energy costs take up large share of household income (lighting represents 40% of household energy costs in Mexico), constrain energy-intensive activities and leave less disposable income for other purposes.	<b>Income:</b> Energy cost savings (In Mexico, lighting costs fell by 80%, and total household energy costs by 32%; households received lamps free of charge).
<b>EE households: Stoves</b>	Use of wood fuel (wood or charcoal) in cooking and water-boiling. In areas where firewood is scarce and/or collected above its renewal rate, it can be classified as non-renewable biomass, thus causing local deforestation and CO2 emissions. Burning wood in traditional fireplaces causes indoor pollution and fire hazard.	Reduction of firewood consumption for cooking (by up to 80% in Nigeria) provides safe, clean and efficient cooking technology and reduces CO2 emissions (in case of non-renewable biomass) and improves indoor air quality	<b>Time:</b> Firewood collection for cooking consumes significant amounts of women's time (especially in poor rural areas). <b>Health and safety:</b> Indoor air pollution and fire hazard threaten the health and safety of those responsible for cooking (typically women and girls). <b>Resources:</b> Unsustainable firewood collection causes deforestation and forest degradation and reduces the forests' ability to provide vital services	<b>Time:</b> Less time needed to gather firewood <b>Health &amp; safety:</b> Health benefits of better indoor air quality, reduced risk of house fires (if fireplace replaced with more controlled cookstove) <b>Resources:</b> Protection of forest resources for generating non-market benefits.
<b>Solar: Household cooking</b>	Use of coal (or non-renewable biomass) as energy source for cooking and water-boiling. Coal-burning causes CO2 emissions, indoor pollution and risk of house fires.	Use of solar power in cooking and water-boiling instead of coal or non-renewable biomass provides efficient, safe and clean cooking technology and reduces CO2 emissions.	<b>Income:</b> As typical household energy managers, women are responsible for coal purchases (or biomass gathering), which means they spend time and money for acquiring fuel for cooking and water-boiling. <b>Time:</b> Indoor air pollution makes house-cleaning difficult and time-consuming for women. <b>Health &amp; safety:</b> Indoor air pollution and fire hazards threaten the health and safety of those responsible for cooking (typically women and girls).	<b>Income:</b> Avoided energy costs for cooking and water-boiling <b>Time:</b> time savings in cleaning the house (and reduced fuelwood collection, if applicable) <b>Health &amp; safety:</b> health benefits of better indoor air quality, reduced risk of house fires (when coal not burned indoors)



Project type	Conventional CDM Perspective		Gender Perspectives of CDM Projects	
	CDM baseline	After project	Gender baseline	After project
<b>Solar: PV (for lighting)</b>	Use of kerosene for lighting purposes. Kerosene provides low-quality lighting, causes CO2 emissions, indoor pollution and risk of house fires.	Use of solar power for lighting provides high-quality lighting, reduces CO2 emissions and improves indoor air quality.	<p><b>Income:</b> Kerosene costs represent a significant share of household expenditure (especially for rural poor) thus limiting the use of lighting and the availability of disposable income for other purposes.</p> <p><b>Time:</b> Sparing use of lighting leads to time constraints; conditions for working or studying in the evening are poor.</p> <p><b>Health &amp; safety:</b> Indoor air pollution, fire hazards and poor-quality lighting threaten the health and safety of those spending time indoors (typically women and children).</p>	<p><b>Income:</b> lower energy costs; income-generation opportunities from better lighting</p> <p><b>Time:</b> extended business/study time through more and better lighting in households</p> <p><b>Health &amp; safety:</b> health and safety benefits of better indoor air quality and reduced fire hazard.</p>
<b>Solar: Solar home system</b>	Kerosene used for lighting and use of diesel-based off-grid generation for electricity cause CO2 emissions and local indoor and outdoor air pollution.	Use of solar-powered lighting and electricity provides new, affordable, reliable and high-quality lighting and electricity, reduces CO2 and local indoor and outdoor air pollution and reduces dependency in imported fossil fuels. The solar industry and new, affordable, reliable electricity supply and information/communication/communal services create new job and business opportunities and community services (e.g. extended services for tailors, barbers, shops, cafés and restaurants; new income opportunities, such as mobile phone charging; health services) .	<p><b>Income:</b> kerosene and diesel costs consume a significant share of household income; lack of reliable/affordable electricity increases workload and limits income-generation opportunities</p> <p><b>Time:</b> kerosene requires women's cleaning time; poor quality lighting limits evening activities.</p> <p><b>Health &amp; safety:</b> Indoor air pollution and fire hazard threaten the health and safety of those spending time indoors (typically women and children)</p>	<p><b>Income:</b> income savings from reduced kerosene use; training and job opportunities in solar industry; training for operation and maintenance of solar equipment; new employment opportunities derived from electricity and/or lighting (e.g. tutoring, poultry farming, cottage industries, sewing, handicrafts).</p> <p><b>Time:</b> time savings from easier housework (including reduced need for cleaning); extra time due to better lighting.</p> <p><b>Health &amp; safety:</b> Health and safety benefits from reduced kerosene use; safety and mobility benefits for women from better lighting after dusk.</p>

Project type	Conventional CDM Perspective		Gender Perspectives of CDM Projects	
	CDM baseline	After project	Gender baseline	After project
<b>Solar: Solar water heating</b>	Use of fossil fuel-based grid electricity for water heating (can be 40% of total electricity consumption) causes CO2 emissions and local outdoor air pollution. (suppressed demand refers to the case where households has no access to electric water heating in the baseline due to energy poverty).	Use of solar energy for heating water saves household income through reduced electricity consumption, reduces CO2 emissions, improves outdoor local air quality and creates jobs in the solar industry.	<b>Income:</b> Costly and/or unreliable electricity can inconvenience housework (e.g. laundry, dishes) and limit electricity use and availability of disposable household income for other purposes.	<b>Income:</b> there may be some new job opportunities also for women in solar industry
<b>Renewable energy: Rural electrification</b>	Use of coal and/or firewood for cooking; use of kerosene for lighting, use of off-grid diesel for electricity causes CO2 emissions, local indoor and outdoor air pollution, and deforestation.	Use of (limited) heating with renewable energy (traditional cooking/heating will mostly continue), use of renewable off-grid (or local grid) electricity for lighting and other uses provides new, clean and reliable energy, reduces CO2 emissions, improves outdoor (and indoor) air quality, protects (to a limited extent) forests, and offers new income-generation opportunities derived from affordable, reliable electricity	<b>Income:</b> household expenditure on coal, kerosene limits alternative uses of income; lack of electricity increases workload and limits income-generation opportunities <b>Time:</b> firewood collection, cooking and related cleaning consumes women's time; poor quality lighting limits evening activities. <b>Health &amp; safety:</b> indoor pollution causes health problems, traditional stoves cause fire hazard and firewood collection threatens health and safety, especially of women and girls.	<b>Income:</b> income savings from reduced coal and kerosene use and more affordable electricity; new income-generation opportunities and educational/communication/entertainment opportunities derived from affordable, reliable electricity and new electric appliances. <b>Time:</b> (limited) time savings from reduced firewood collection; time savings from reduced cleaning and easier housework; extra time due to better lighting. <b>Health &amp; safety:</b> health and safety benefits from cleaner indoor air and reduced firewood collection.
<b>Methane avoidance: Household biogas</b>	Use of coal and/or firewood (non-renewable biomass) for cooking and kerosene used for lighting, causing deforestation, CO2 emissions, indoor and outdoor air pollution and fire hazard. Animal and household waste is stored in pits, causing CH4 emissions.	Use of biogas for cooking (and possibly also for lighting) provides safe, clean and efficient cooking technology as well as an organic fertilizer, reduces CO2 emissions, improves indoor and outdoor air quality, protects forests, and creates new employment in the biogas industry.	<b>Income:</b> coal (and kerosene, fertilizer) costs represent a significant share of household expenditure and limit other opportunities. <b>Time:</b> firewood collection, cooking and related cleaning consumes women's time; poor-quality lighting limits evening activities. <b>Health &amp; safety:</b> indoor pollution causes health problems; traditional stoves (and kerosene) cause fire hazard; firewood collection threatens health and safety.	<b>Income:</b> income savings from reduced coal (and kerosene, fertilizer) purchases; new income opportunities through jobs in the biogas industry. <b>Time:</b> time savings from reduced firewood collection, cooking and related cleaning; (in case of biogas lighting: extra time due to better lighting) <b>Health &amp; safety:</b> health and safety benefits from cleaner indoor air and reduced firewood collection.



Project type	Conventional CDM Perspective		Gender Perspectives of CDM Projects	
	CDM baseline	After project	Gender baseline	After project
<b>Methane avoidance: Composting</b>	Organic waste is landfilled or piled up with non-organic waste under anaerobic conditions, causing methane (CH <sub>4</sub> ) emissions.	Composting (separation and aerobic treatment of organic waste) provides a soil conditioner or fertilizer (from final compost), reduces CH <sub>4</sub> emissions and creates employment.	<b>Income:</b> Women, especially the rural poor, often lack formal employment and are typically in charge of household waste disposal and recycling. <b>Resources:</b> Women have a significant role as rural farmers and deal with issues such as fertilization.	<b>Income:</b> new employment opportunities in composting activities are well-suited for women and offer opportunities for income-generation, financial independent, improved social status and empowerment. <b>Resources:</b> Organic fertilizer can improve harvest and thus improve nutrition and/or income and reduce vulnerabilities.
<b>Reforestation + biodiesel production</b>	Use of coal/firewood/dung for cooking, and kerosene/diesel-based electricity for lighting causes CO <sub>2</sub> emissions, local indoor and outdoor air pollution, fire hazard and local deforestation.	Use of (more sustainable) firewood, dung or coal (depending on user and land rights at plantations) for cooking and use of biodiesel-based grid electricity (for lighting and other uses) provides new, affordable and reliable electricity supply, provides an organic fertilizer (by-product of biodiesel production), reduces CO <sub>2</sub> emissions, reduces dependency on imported fossil fuels, creates new job opportunities in plantations, seed production and biodiesel industries, and stimulates the local economy (e.g. enabling improved communal health, communication etc. services). (If agro-forestry and intercropping: offers more and varied food crops and fodder).	<b>Income:</b> household expenditure on kerosene/diesel/coal limits energy use and availability of disposable income for other purposes; lack of affordable/reliable electricity increases workload and limits income-generation opportunities. <b>Time:</b> firewood collection, cooking and related cleaning consumes significant amounts of women's time; poor quality lighting limits evening activities. <b>Health &amp; safety:</b> fire hazards, indoor air pollution and firewood collection threaten women's health and safety.	<b>Income:</b> income savings from reduced coal/kerosene use; income savings and new income-generation and educational/communication/entertainment opportunities from affordable, reliable electricity and new electric appliances; new employment opportunities at plantations, seed production, biodiesel production. <b>Time:</b> Time savings from easier cooking and related cleaning (and, depending on user and land rights at plantations, from more accessible firewood); extra time due to better lighting. <b>Health &amp; safety:</b> health and safety benefits of cleaner indoor air and reduced fire hazard. <b>Resources:</b> Protection and reforestation of degraded lands can enhance forests' vital services.

Table 7 lists the identified potential gender-positive impacts of the selected case studies. Sample projects were assessed against the questions listed in Figure 5, based on the information available in the PDDs and other material, such as Gold Standard Passports. In cases where the potential impacts of projects were not described in the project documentation, their existence in the particular project was assessed by the authors based on existing literature on gender-impacts of relevant project types, as overviewed earlier in this report. Only *potential* gender-positive impacts could be identified, because the project documentation does not contain information on the realised impacts. The documentation of realised impacts is generally only available for Gold Standard projects, which have the obligation to monitor the realised sustainable development impacts annually, including gender issues. However, none of Gold Standard projects in the sample had yet published any sustainability monitoring reports.

The potential for both emission reductions and gender-positive impacts of a given project depends on the pre-project (baseline) conditions. To enable some general observations, generic CDM and gender baselines were developed for the selected sub-types, based on insights gained from the case studies and relevant literature. The potential impacts of selected project sub-types were then considered against these baselines, and the results are presented in Table 8. The gender baseline and project impacts were divided into three main categories, namely income, time, health & safety. A few impacts were categorised as resource-related.

Alternatively, baselines and project impacts could be categorised in terms of relevant activities and outputs, such as cooking, lighting, electricity and environmental resources, enabling a systematic comparison of e.g. cooking conditions before and after the project from both CDM and gender perspectives. Annex I illustrates this approach, using a household-level biogas programme as an example.

## Summary of Results and Observations

A detailed project-level analysis is essential for understanding the potential gender impacts of a given CDM project. A comprehensive analysis of project-level impacts is beyond the scope of this study and would require extensive gender-disaggregated data. Instead, this study provides an indication of the variety of potential impacts of selected project types based on a brief analysis of case studies.

Table 8 presents the results of this analysis. Interestingly, the top 5 projects in terms of most gender-positive impacts were all of different types. The greatest gender-relevant benefits were identified for a solar home system programme in Bangladesh and a biogas programme in India, followed by an efficient stove project, a solar lighting programme and a series of off-grid micro hydropower projects. Solar home systems and off-grid hydro projects offer both high-quality lighting and stable, affordable electricity for households, opening up various new income-generation and education opportunities. Solar and efficient stove projects promised to offer new job opportunities particularly for women. The biogas and efficient stove projects had the greatest impact on women's time savings by reducing the need to collect firewood.

### Results of this study indicate that:

- **CDM is not categorically gender-neutral, but instead, it has considerable potential to promote gender-positive sustainable development goals.** A systematic preliminary screening of CDM project types demonstrates that CDM can promote project activities that have potential to generate positive gender impacts. The majority of project types were identified as maybe having potential gender-positive impacts, illustrating the difficulty of making generalisations on something as context-specific as gender impacts, but also highlighting the need for considering gender issues on a

case-by-case rather than project-type basis. Potential gender-positive impacts were found to vary across – and also within – project types and sub-types. An analysis of selected real-life CDM projects identified actual cases with strong potential for gender-positive impacts in the context of rural households. All sample projects were found to have several potential gender-positive impacts.

- **The most obvious gender-positive impacts of CDM relate to project activities which offer cleaner, more efficient and affordable energy for cooking, lighting and electrical appliances in rural households that previously relied on traditional fuels such as firewood, dung, coal and kerosene.** Direct benefits include reduced workload and improved safety of household chores, income savings via reduced fuel expenditure, and cleaner indoor air. The sub-types with the highest number of identified gender benefits (8-11 impacts per project) were household-level projects that provide renewable energy for cooking and/or lighting. The composting project had the fewest (2) gender-positive impacts. The most commonly identified benefit was the reduction of household energy costs. Improved indoor air quality and reduced household cleaning were also common benefits.
- **CDM project activities can also foster opportunities to promote gender equality in terms of poverty alleviation, education and social empowerment** by, *inter alia*, increasing household income, freeing up women's time and providing resources for new income-generation activities, especially through access to reliable and affordable energy. Thus, activities that promote gender equality by improving women's lives also generate wider benefits for the women, men, girls and boys of households and communities through e.g. poverty eradication, better health and nutrition, reduced vulnerability, economic diversification, improved wellbeing and social empowerment.
- **Some CDM projects promote gender equality without explicitly recognising it:** project documentation sometimes presents gender-positive impacts as 'only' (i.e. implicitly gender-neutral) sustainable development benefits, and some positive impacts go fully unnoticed. Gold Standard CDM projects were generally found to have well-documented sustainable development impacts, often with several explicit references to gender issues. However, gender aspects were mainly mentioned under the specific "gender impacts" section in the social impact category. Such a narrow interpretation of gender issues as an isolated category can obscure their cross-cutting nature. 'Gender' is not an isolated, self-standing issue but instead, a context-specific dimension of any issue that affect men and women differently, be it health, education, household income, employment or education.
- **Women's participation in the stakeholder process was rarely mentioned in the CDM documentation.** Gold Standard documentation always includes a photo of the stakeholder process, which enabled the assessment of women's participation. Women's participation was confirmed in a third of the sampled projects but it may be much higher. This implies that women's participation is usually not considered worth mentioning in the CDM context.
- **The extent to which CDM's gender-positive potential is realised varies across project activities, local contexts, and stakeholders.** Also, CDM methodologies and transaction costs can affect the viability of developing some gender-positive activities as CDM projects. Designing a project that matches local needs, capacity and resources requires genuine participation and ownership of all affected stakeholders. Appropriate training and effective organisation is needed to ensure the effective implementation and monitoring of projects, as well as sustained benefits throughout the project lifetime.

- **Recognition of the project's potential impacts – gender-positive and other – at the design stage helps to design projects that maximise positive impacts, enjoy local support and optimise project performance.** Full consideration of the needs and capacity of the target group is a precondition for the appropriate design and effective implementation of any project – CDM is not exception. Of course, there are bound to be trade-offs and compromises in reality, but even so, wise project development results in well-informed trade-offs rather than unintended ones.
- **The current CDM structure offers various entry points for incorporating gender considerations into CDM project activities.** Host and investor countries can introduce gender considerations into their national CDM approval criteria; carbon credit buyers can include gender perspectives in their due diligence process and procurement strategies; project developers can consider gender aspects into project design and implementation and carry out a participatory and balanced stakeholder process; and global observers can use the global stakeholder process to highlight gender perspectives of individual CDM projects. The full realisation of CDM's gender-positive potential thus depends on the awareness, willingness and commitment of the parties involved.
- **Gender impact assessment tools, such as the Gender Spectacles Tool developed as part of this study, can assist CDM stakeholders and national CDM authorities to identify and assess gender aspects of CDM projects and to integrate gender considerations into planning, implementation and monitoring.**

# Conclusions

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The Kyoto Protocol's Clean Development Mechanism (CDM) is a key vehicle for leveraging new financing for project emission activities that reduce greenhouse gas emissions and promote sustainable development in developing countries.

To ensure concerted and sustainable development efforts, CDM projects should be in line with the host countries' sustainable development policies. Gender equality is an integral element of sustainable development, so it seems appropriate to consider whether CDM projects could contribute also towards gender equality, or at the very least, avoid exacerbating existing inequalities.

The CDM project pipeline consists of a range of project types, none of which are exclusive to the CDM context. For example, CDM can mobilise new and additional financing for renewable energy, energy efficiency and biogas projects, which are key elements of development policies in many developing countries. As with any project activity, the early identification of the CDM project's potential impacts and engagement with key stakeholders enables smart project design which, in turn, can help to avoid or mitigate undesired impacts, boost positive impacts and secure local support, thus promoting efficient, successful operation. So ideally, smart and equitable project design has the potential to offer double dividends of both equity and efficiency also to CDM projects.

Following the Copenhagen Accord of December 2009, unforeseen amounts of new financing are now being mobilised for climate change mitigation and adaptation. While significant public

funding is channelled through funds and facilities, such as the Global Environment Fund (GEF), CDM is currently the sole market mechanism under the UN climate policy framework which incentivises private investments in climate-friendly projects in developing countries.

Thus, an examination of the experiences of CDM also through gender spectacles seems warranted and timely. This report serves as the first step towards more systematic understanding of CDM's potential gender impacts. A review of relevant literature confirms potential synergistic overlaps where CDM can promote gender equality and vice versa. As part of this study, a CDM Gender Spectacles Tool was developed to screen potential gender-positive local impacts of CDM project types and activities, and applies this Tool to a selected sample of real CDM projects in the context of rural households.

The results of this study indicate that CDM has the potential to promote gender equality in a variety of ways. Since this potential varies greatly across and even within project types, sub-types and local contexts, a project-by-project approach is the recommended, whereby the project's gender impacts are considered against a 'gender baseline'. The current CDM structure offers several entry points for stakeholders – such as host countries, project developers and investors – who wish to incorporate gender perspectives into CDM projects, and existing gender analysis tools can be readily adapted for this purpose. Ultimately, the extent of gender mainstreaming in CDM will depend on the awareness, motivation and commitment of CDM stakeholders.

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## Annex 1. Alternative Approach for Analyzing Gender Impacts of CDM Projects

Methane avoidance: Household biogas   Context: Rural household		
	Baseline	Project (direct benefits)
<b>CDM aspects</b>	<p><b>Cooking:</b> coal and/or firewood used</p> <p><b>Lighting:</b> kerosene used</p> <p><b>Electricity:</b> n/a</p> <p><b>Farming:</b> artificial fertilizers (or manure?) used</p> <p><b>Waste:</b> manure stored in pits (or used as fertilizer?)</p> <p><b>Employment:</b> subsistence farming and cottage industries</p> <p><b>Environment:</b> CO<sub>2</sub> and indoor and outdoor air pollution from burning fossil fuels (and/or non-renewable biomass); CH<sub>4</sub> from manure; deforestation from non-renewable biomass use</p>	<p><b>Cooking:</b> biogas used (some traditional fuel use may continue)</p> <p><b>Lighting:</b> possibly biogas used</p> <p><b>Electricity:</b> n/a</p> <p><b>Farming:</b> by-product of biogas generation used as fertilizer</p> <p><b>Waste:</b> manure used for biogas generation</p> <p><b>Employment:</b> new job opportunities in biogas industry</p> <p><b>Environment:</b> less CO<sub>2</sub> and less indoor and outdoor air pollution from fossil fuels/biomass burning; less CH<sub>4</sub> from manure; protection of forests (&gt; soil, water retention)</p>
<b>Gender aspects</b>	<p><b>Cooking:</b> firewood collection, cooking and related cleaning takes time; household expenditure on coal; household income; indoor pollution causes health problems; traditional stoves cause fire hazard; firewood collection threatens health and safety.</p> <p><b>Lighting:</b> kerosene requires household income and cleaning time; poor quality lighting limits evening activities; kerosene causes fire hazard.</p> <p><b>Electricity:</b> n/a</p> <p><b>Farming:</b> workload from fertilizer application (?); household expenditure on artificial fertilizer</p> <p><b>Waste:</b> (who handles manure: men and/or women?)</p> <p><b>Employment:</b> mostly uncompensated household chores and subsistence farming (?)</p> <p><b>Environment:</b> health problems from indoor air pollution</p>	<p><b>Cooking:</b> time savings from reduced firewood collection, cooking and related cleaning; income savings from reduced coal use; health and safety benefits from cleaner indoor air and reduced firewood collection.</p> <p><b>Lighting:</b> income savings from reduced kerosene use; time savings from reduced cleaning; extra time due to better lighting; health and safety benefits from reduced kerosene use.</p> <p><b>Electricity:</b> n/a</p> <p><b>Farming:</b> income savings from reduced artificial fertilizer; higher yields from free (and thus more generously applied?) fertilizer</p> <p><b>Waste:</b> (project may increase rather than decrease women's time/workload for manure handling, depending on design)</p> <p><b>Employment:</b> training for operation and maintenance of biodigesters, and for supply of biogas equipment.</p> <p><b>Environment:</b> health benefits from cleaner indoor air</p>
<b>Remarks</b>	<p>As main users, women need to be involved in the investment decision and choosing the most appropriate design (e.g. model with light; minimal manure handling) and trained to operate and maintain the equipment. As potential entrepreneurs, women should be included in training programmes and provided access to necessary capital.</p> <p>Besides benefits, additional inputs (e.g. water) and workload (e.g. manure handling) and their distribution between men/women should be considered. Baseline use of manure may vary; it may not be considered a waste product and instead, it may be used for energy (burning) and/or fertilizer and/or building material. The impact of potential competing uses of a project input must be analysed.</p>	



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