



A Handbook for

Gender-Responsive Energy and WASH Projects

in Development Cooperation

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Women Engage for a Common Future e.V.

Authors: Verena Demmelbauer, WECF e.V., Anja Rühlemann, WECF e.V., Dr Anke Stock, WECF e.V., Katharina Habersbrunner, WECF e.V., Anna Samwel, WECF Georgia, Regina Drexel, WECF e.V., Dr Claudia Wendland, Hamburg Wasser, presentations and information by Dr. Regina Frey were used in this publication

Photos: Annabelle Avril, Sophiko Aptsiauri, WECF

Design: Anja Wesner, Munich

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Contact information:

WECF e.V.

St.-Jakobs-Platz 10

80331 Munich

Tel.: +49(0)89 23 23 938-0

www.wecf.org

WECF donations account:

WECF e.V.

Stadtsparkasse München

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1 INTRO- DUCTION

Ensuring access to affordable, reliable, and renewable energy and to safe and adequate water supply and sanitation are key areas of development cooperation; they are also becoming increasingly urgent as a result of climate change. Women and girls are particularly affected by the absence of or poor access to energy and water supply. Inadequate hygiene in schools often have serious consequences for girls. In Malawi, for example, 70% of girls who have started their periods miss up to three days teaching a month because their schools lack the necessary facilities for washing and changing sanitary pads or they cannot afford sanitary products. Many of them leave school without qualifications because of the time they have missed.

Gender also plays a role in access to reliable energy. In 2016, three billion people (41% of the global population) were still cooking with unclean fuels. In 2012, over four million people died from indoor air pollution caused by these unclean fuels, 60% of them women and girls. Women often have poorer access to renewable energy because they lack the means to finance it, even though renewable energy solutions often pay for themselves more quickly than diesel generators or paraffin, for example. Although women and girls are often energy users and keenly aware of their family needs, they are not involved in the planning, implementation, and evaluation of projects in the water, sanitation, and energy sector.

This is due, amongst other factors, to the socially shaped, patriarchal dominance structures that exist within societies and households. If these social and cultural conditions are not taken into account, development projects risk maintaining existing power structures and – in the worst case scenario – reinforcing them and consolidating social inequalities. The active participation of all a project's target groups with their specific expertise and the resulting improvement in levels of technological acceptance also produces more efficient and more sustainable project outcomes. Project success is linked both to technical skills and social environment. This success hinges on the inclusion of all target groups – i.e. men and women from varying social backgrounds – on site. It also depends on the gender-differentiated, intersectional analysis of their needs and the integration of these needs into the project.

Although gender equality is already a key goal of development projects, many report “rhetorical successes and practical difficulties”. Most NGOs lack the tools, the expertise, and in some cases the financial resources to implement their projects in a truly gender-responsive manner. Added to this is the fact that gender equality remains a sensitive issue in many parts of the world, and facilitating it requires special skills, experience, and the appropriate tools. Similarly, genuinely sustainable approaches are still far from being securely anchored in development cooperation project practice, where time-limited programmes offer insufficient time to address structural causes of the issues involved.

WECF's aims in publishing this handbook are to reinforce awareness of gender equality in development cooperation, and to share its experience in the interrelated fields of the socially equitable and sustainable provision of energy, water, and sanitation in accordance with the guidelines set out in Agenda 2030. We hope that bringing these technical and methodological skills to a wider audience will help expand the options available to players on the ground and improve the quality of development projects with lasting effect.

2 GENDER



For many years the term 'gender' referred simply to a person's biological sex. Over time, however, we have come to understand that this label fails to cover all the facets of a very complex issue. This is why we now use two terms: 'sex' and 'gender'.

'Sex' refers to the "biological and physiological characteristics that define humans as female or male. These sets of biological characteristics are not mutually exclusive, as there are individuals who possess both, but these characteristics tend to differentiate humans as females or males [2]."

The term 'gender', on the other hand, describes social attributes and opportunities. "These attributes, opportunities, and relationships are socially constructed and are learned through socialisation processes. They are context- and time-specific, and changeable. Gender determines what is expected, allowed, and valued in a woman or a man in a given context [3]."

Gender analysis reveals differences and inequalities between women and men in daily life, degrees of access to and control over resources, and varying opportunities to participate in political and economic life. However, it is also important to remember that gender is just one aspect of a broader sociocultural context, and so demands an intersectional approach. Underlying this approach is the fact that criteria such as class, poverty level, ethnic group, and age also play a role in the creation of gender [3].

The concept of intersectionality makes visible various systems of discrimination and oppression across categories such as gender, class, racial attributions, ability, and sexuality. It describes different categories of social inequality and reveals multiple discriminations. The aim of an intersectional approach is to identify all existing forms of discrimination such as, for example, the fact that a woman wearing a headscarf suffers discrimination not just on the grounds of her religious affiliation, but also because of her gender [1].

2.1 Fundamentals and the place of gender in development cooperation

Development cooperation has seen various approaches to gender over the years. Until the end of the 1960s, it was largely viewed from a gender-blind, technically oriented standpoint. This was due in no small part to the fact that the majority of those working in development cooperation at the time were men.

In the 1970s, development cooperation underwent a transformation, switching from an approach that entirely disregarded the issue of gender to the so-called 'Women in Development' (WID) approach with its strong focus on the position of women. This transformation came about as a result of recognition that women are particularly disadvantaged – often working in such informal sectors as agriculture, care, and housework – and so are more affected by poverty [1].

The term 'Women in Development' (WID) was coined by US female development professionals who began to challenge development theories on the basis of their own experiences. They observed that rather than having a positive influence on women's rights and status, development cooperation often led to a deterioration of their position [4]. WID sought to understand why development cooperation efforts were not bearing fruit for women. Analysis showed that failures to acknowledge and utilise the productive roles played by women both within the home (unpaid care work and housework) and beyond it (community work) had resulted in the inefficient use of resources [4].

The United Nations Decade for Women (1975–1985) and major UN World Conferences on Women helped consolidate the WID approach. This decade saw the emergence of a new international legal framework to underpin the promotion of women's rights including, in 1979, the central Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) [5], or Women's Rights Convention. This framework extends signatories' responsibility for discrimination by non-governmental players and commits them to producing and submitting regular

reports on the situation of women in their respective countries to the CEDAW Committee. At the time, however, the CEDAW Committee had no powers to carry out investigations or impose sanctions. Not until 1999 was the Optional Protocol to the Women's Rights Convention signed, permitting individual complaints [6].

By the end of the 1970s, the limitations of focussing development policy efforts on women in isolation were becoming apparent. Simply involving women in projects often increased their workload without enabling them to use and so benefit from the skills and knowledge they had acquired in the wider world [6]. The effects of gender relations on women's access to political posts, jobs and resources, for example, had not come under scrutiny. New studies started to show the importance of social structures, moral values, and traditions in shaping women's roles and to illustrate how existing gender relations, shaped by social power and inequality structures and conflict, are responsible for the subordination of women.

A new approach known as 'Gender and Development' (GAD) was developed [4] in which gender relations were regarded as a whole and women ceased to be seen as a special group [1]. This new approach aimed to describe problems in gender relations caused by traditional role allocation by analysing the tasks carried out by men and women [4].

At the final conference of the UN Decade for Women in Nairobi (1985), DAWN (Development Alternatives with Women for a New Era), a women's network created in the Global South, introduced the term 'empowerment' into the debate about women's rights in development cooperation. It described the need for a transformation in the institutional and social architecture of gender relations to eliminate mechanisms of suppression, and signalled a switch from talk of 'women's issues' to 'gender relations', from 'the problems faced by women' to 'gender imbalance' [7].

Following the Fourth World Conference on Women in Beijing in 1995 and the adoption of the Beijing Declaration and Platform for Action [8], the focus turned to the organisational and institutional preconditions for gender equality. The term 'gender mainstreaming' gained currency to describe the principle that the various effects of all political and social decision-making on men and women must be taken into account. Development cooperation organisations were required to reassess and modify their organisational structures, leading to the consolidation and professionalisation of gender equality both within the organisations themselves and in terms of project delivery. Alongside the existing equal opportunities officers responsible for monitoring fairness and gender equality within an organisation (i.e. enforcing fair recruitment procedures and equal opportunities for all), so-called 'gender focal points' were established to build gender capacity in terms of project content and process and to review project outcomes against gender equality targets [1].

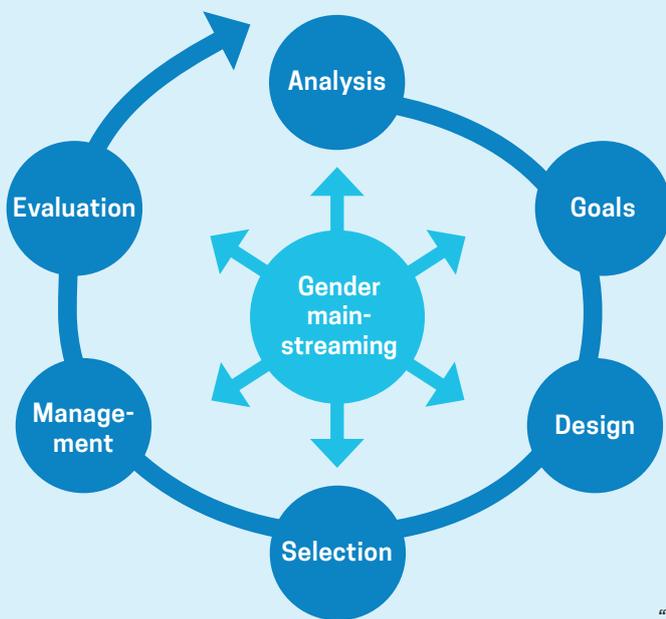
2.2 Gender equality in the project cycle

In delivering a gender-responsive project, it is important to respond to different gender needs and wants whilst maintaining an intersectional approach (see above). The challenge is to factor in gender equality from the outset, and to integrate it into each individual project step.

Gender mainstreaming is now the main approach adopted throughout the process of project implementation. Starting with a gender analysis, it is used to examine the existing situation in both the country or region of delivery and the target group as a basis for developing gender-responsive goals and indicators as the project progresses. Different gender needs must continue to be monitored throughout the implementation phase, just as indicators must be used to measure and evaluate progress.

The sections below examine these individual steps in greater detail, highlighting the issues to be considered in order to guarantee a gender-responsive project cycle [1].

Figure 1. Project cycle [9]



2.2.1 Gender mainstreaming

Gender mainstreaming examines equality issues in all areas of a project. Despite having attracted worldwide attention since the Beijing Platform for Action (1995), it has yet to be implemented in a coherent and consistent manner. A multitude of definitions of the term exist [10], but the one adopted here is that given by United Nations Economic and Social Council in 1997 [11]:

“The process of accessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas 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 policies and programs 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 [11].”

The EU Gender Equality Strategy 2020–2025 states that, “The Commission will enhance gender mainstreaming by systematically including a gender perspective in all stages of policy design in all EU policy areas, internal and external.” [12]

Gender mainstreaming is based on three central approaches:

- structural,
- personal, and
- technical mainstreaming.

Structural mainstreaming builds the goal of equality into an institution’s structures and procedures. It generally follows a ‘top-down’ strategy, i.e. the management of an institution is responsible for its implementation.

Personal mainstreaming seeks to ensure the fair representation of women and men in decision-making and requires that all project staff possess the necessary gender skills.

The third approach, referred to as technical mainstreaming, relates to the work of an institution or organisation, whether it be delivering a project or developing legislation. Both project outcomes and the impact of legislation should have a positive effect on gender fairness and reproduce gender equality [13].

There is no one-size-fits-all recipe for implementing gender mainstreaming. The methodology can be applied at various levels of institutional activity (organisation, policy strategy, programmes, and projects); it feeds into all stages of the process and so takes many different forms on the ground. Procedures are designed to ensure that social gender relations are always kept in view [14].

2.2.2 Gender and analysis

The implementation of gender mainstreaming within a project starts with a gender analysis. An intervention can only be successful if local conditions – including gender relations, problems, and dynamics – are understood and included. Gender analysis therefore plays a key role in gaining a sound understanding of both context and planning outputs from which women as well as men will benefit. Gender analysis identifies and addresses inequalities with a particular emphasis on symptoms and their structural causes. It is generally carried out prior to project design and goal setting and seeks both to highlight gender equality and to ensure an intersectional approach [15]. There are various models of gender analysis, each one generally based on its own analytical framework. Our intention here is not to discuss these frameworks in detail. They have been debated, developed, and used as the basis for integrating gender issues into development cooperation for decades. Further information about these models can be obtained from the overview provided in the GIM tool, from the detailed account given by March et al. (1999) [16] and from a gender analysis example based on the Harvard Analytical Framework [17].

The European Institute for Gender Equality (EIGE) defines gender analysis as the “critical examination of how differences in gender roles, activities, needs, opportunities, and rights/entitlements affect women, men, girls, and boys in a given policy area, situation, or context [18]”. It is used to investigate both the relationships that exist between women and men and the barriers to gender equality in specific policy areas, situations, and contexts. Gender analysis may be conducted on the basis of qualitative information and methods and/or based on quantitative information provided by gender statistics [18].

Analysis concentrates on a particular sector, e.g. WASH and/or energy projects, and the project region or country. A review is carried out to establish which international organisations have already been involved on the ground and any data previously collected are analysed. Further data and information are collected and evaluated by partner organisations using questionnaires, discussion groups, etc. [15].

2.2.3 The GIM toolkit

The [GIM](#) (Gender Impact Assessment and Monitoring) toolkit published by WECF in 2019 and available in German, English, and French versions [19] is a toolkit for assessing and monitoring project impacts on gender equality. It consists of a series of practical aids designed to help development cooperation players (from grass roots organisations to international networks) conduct gender-responsive data analyses (from baseline to gender analysis), measure gender implications over the course of a project and carry out a final evaluation of its impact in terms of gender equality. The toolkit was developed as part of the [Women2030](#) project and aims to support the gender-responsive implementation of the Sustainable Development Goals (SDGs) with a particular focus on SDG 5 for gender equality [19]. It is intended primarily for civil society organisations who are

Figure 2.
Gender mainstreaming

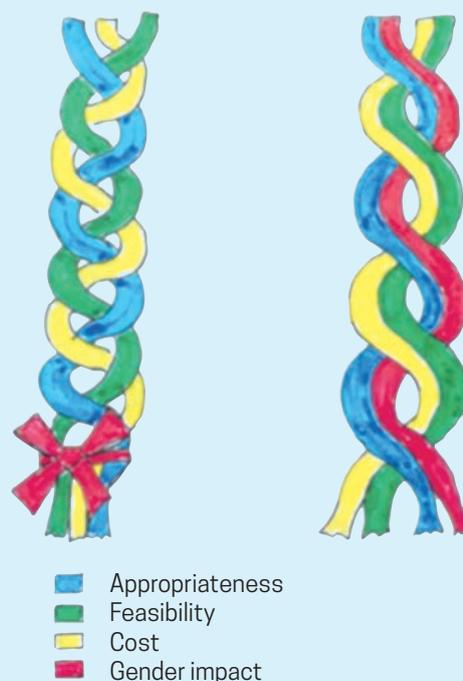


Diagram: Dr Barbara Stiegler, Friedrich-Ebert-Stiftung

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partners in Women2030 projects and for political decision-makers, international funding agencies, and researchers.

We hope that the GIM toolkit will assist in the classification and evaluation of gender-related problems in the local, regional, and national context. The development of gender-specific indicators for the relevant SDGs helps make progress measurable and so visible. The tools it contains can be used to highlight and discuss key areas for improvement, set priorities and establish starting points for targeted actions [19].

Data collection

The first step of a gender assessment is the collection of secondary data by means of literature and internet searches. This involves collecting, analysing, and reviewing existing data that are relevant to the topic. A literature review documenting the current state of knowledge is essential to avoid duplication of efforts [19]. It is important to ensure that this research is based

on trustworthy yet diverse sources [19]. Available statistics must be reviewed to ensure they are current and reliable, quality standards that are generally met by both governmental and non-governmental organisations. It is also important that the available statistics are sex-disaggregated.

The UN Statistics Division Handbook on Gender Statistics defines gender statistics as follows:

- data are collected and presented by sex as a primary and overall classification;
- data reflect gender issues;
- data are based on concepts and definitions that adequately reflect the diversity of women and men and capture all aspects of their lives;
- data collection methods take into account stereotypes and social and cultural factors that may induce gender bias in the data [20].

Close attention should be paid to the validity of the studies quoted (e.g. sample size, error margin, etc.) [19]. This part of the study should also contain an analysis of the existing legal framework. The questions asked in section II) F) of the GIM toolkit, “Status of men and women before the law”, can be used as a basis for this analysis [19].

The second step of a gender assessment requires primary data, which can be collected in two main ways:

- i) working with a focus group to collect participants’ experiences;
- ii) and/or using a questionnaire to obtain detailed information on a sample group.

The GIM toolkit provides examples of exercises that can be carried out in a participatory manner with focus groups (e.g. problem ranking) or by researchers themselves (e.g. organisation profiles). These exercises allow practitioners to collect first-hand data which has proved a useful tool for conducting a gender analysis [19].

If no gender analysis is conducted at the project design stage, there is a risk that the needs identified, aims set and measures devised will be inappropriate. A further risk lies in situations where a good gender analysis is carried out at the start of the project but gender aspects cease to be addressed as it progresses. Accompanying gender skills are therefore required during implementation and monitoring to ensure that gender equality continues to be the focus of attention and can so be supported and implemented [1].

2.2.4 Gender indicators

Gender indicators are another effective tool for establishing and tracking gender equality. Firstly, they serve to establish the effectiveness of projects, actions, and outputs; secondly, they help monitor current status and progress achieved.

They can be used at various different levels: at the strategic level, the overarching development policy level and finally at the level of the targets assigned to specific project outputs. Whatever the level, gender indicators measure changes relating to gender equality. They can be gathered both qualitatively through experience, opinions, and attitudes and quantitatively as countable or statistical units.

According to the SMART framework, indicators should be:

- S** Specific – An indicator should be narrowly and accurately defined (Who has been reached by what outputs/actions?).
- M** Measurable – Changes should be countable or at least observable (qualitatively or quantitatively).
- A** Attainable – Anticipated changes should be achievable and have future impact.
- R** Realistic – Outputs should be realistic in terms of (personnel and financial) resources.
- T** Time-bound – There should be a timeframe linked to the indicator [15].

Relevant gender-specific indicators have been developed to highlight gender-specific differences in access to resources and opportunities in areas such as education, employment, decision-making, and gender-specific violence. They allow for meaningful comparison over at least one data dimension, such as country or time, with which meaningful comparisons can in turn be made and progress measured.

The way in which indicators are designed for a given project is extremely important. They have the potential to help reduce inequalities between the genders by providing an evidence basis that reveals these inequalities and maps how they change over the course of the project.

They ensure that women's and men's positions in society and their contributions to change are measured correctly and valued equally. They also allow gender-specific aspects to be revealed in areas where they were previously considered irrelevant [21].

2.2.5 Implementation, monitoring, and evaluation

Maintaining attendant gender competences during project implementation is essential if the risk of gender dimensions considered at the design stage going unheeded as the project progresses is to be avoided. For this reason, it is important to allocate responsibilities from the outset and so ensure that gender issues remain the focus of everyone involved



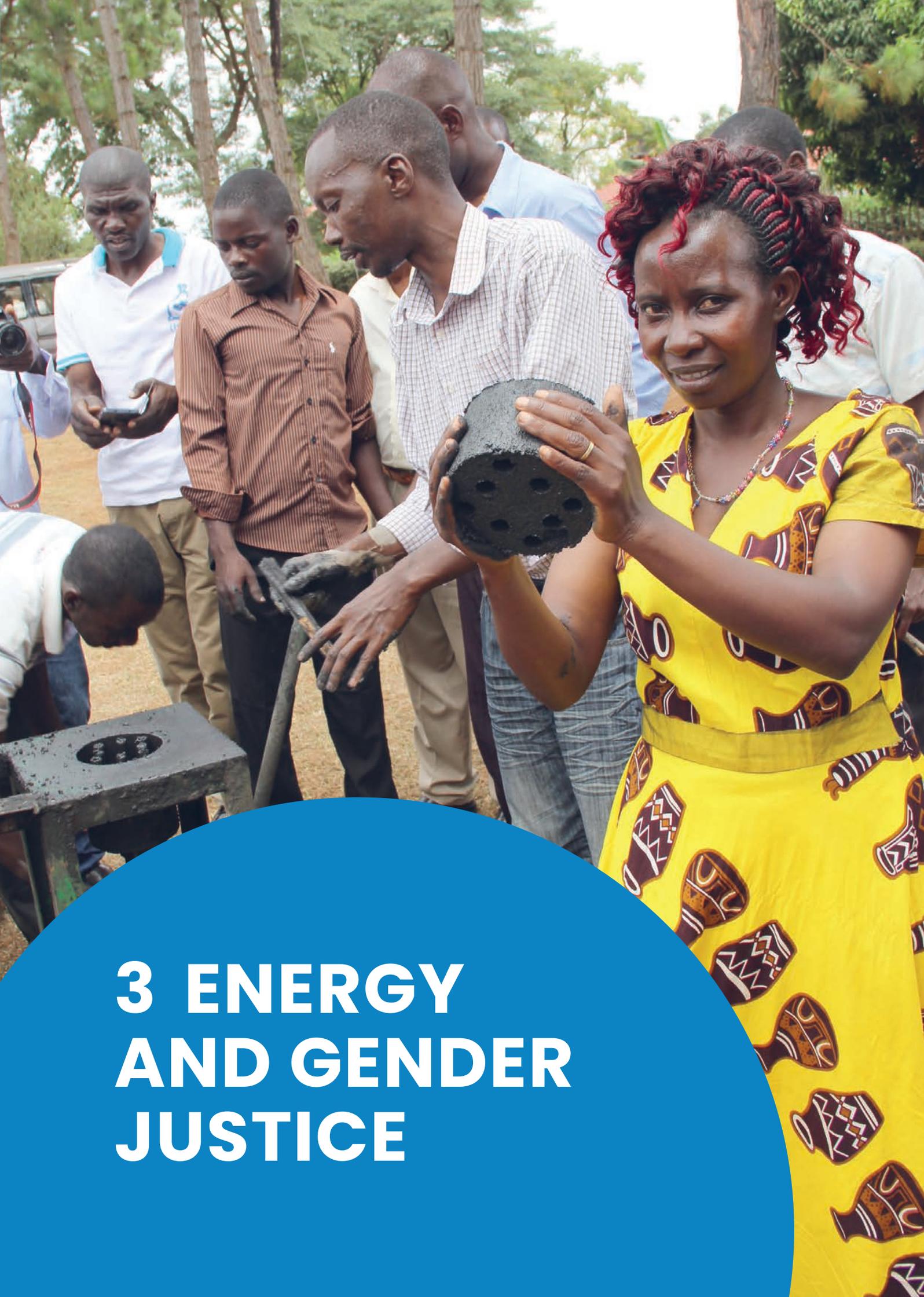
in the project and that gender equality is introduced and implemented coherently as it progresses [1].

Developing gender competences and capacity and raising awareness among project staff and partners involved in implementation keeps gender equality at the heart of a project [22]. As a general rule, the more strongly gender mainstreaming is rooted in the project organisation itself, the easier it is to implement projects in a gender-responsive manner.

It is also essential to monitor – not once, but repeatedly – whether project activities can be carried out by women and men alike and whether both genders can be reached equally. For example, care and household duties can be a cause of discrimination against women and certain access requirements may exclude certain groups. The (time) structure should take these possibilities into account and be adjusted as appropriate.

By monitoring the indicators described in the previous section, it is possible to measure changes wherever data have been collected in a sex-disaggregated manner. If data processing indicates that corrective measures are needed, changes in the project layout should be implemented and new activities added without delay [22].

Finally, the data collected can be used to carry out a project review or so-called 'evaluation'. This may take the form of a self-evaluation or an externally commissioned evaluation exercise. To ensure efficient procedures, it is therefore advantageous for all the necessary data to have been collected and processed during the course of the project. Further information is available on the GIZ Gender Knowledge Platform [23].



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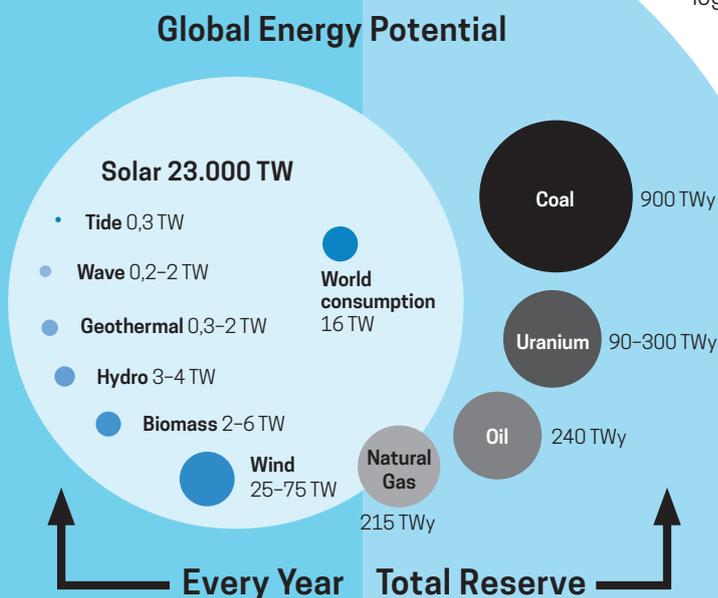
3.1 Renewable energies in development cooperation

Access to energy is one of the foundations of sustainable development. Energy underpins environmental, technological, economic, and social progress, and so fosters the implementation of national and international development goals. As well as meeting daily domestic needs (e.g. lighting, cooking, cooling, and heating), it also forms the basis for public and private institutions, enabling them to provide a good education, communication, healthcare, and access to clean water. Energy is also a prerequisite for sustainable growth and poverty reduction: a catalyst for the kind of sustainable development outlined in Agenda 2030 [24]. Ensuring an affordable, renewable energy supply is therefore central to improving development prospects for partner countries in the Global South. We nevertheless continue to see a range of injustices in the energy sector, including lack of access to energy, increasing energy poverty, and unequal participation and decision-making power in energy policy and the energy industry [25] [26]. One in five people in Africa and South Asia currently has no access to electricity. Close to three billion people (40% of the global population) continue to burn fuels such as wood, charcoal, animal waste, and crop residues on open fires or inefficient stoves for their daily cooking and heating [24]. Although these figures are dropping, we are lagging behind the UN's sustainable development goals across the globe. Electricity supply in rural areas, in particular, remains a major challenge.

Renewable energies provide sustainable alternatives to traditional fossil and centralised energy systems and so offer significant environmental, social, and economic potential. The challenge is no longer simply to create access to energy and reduce energy costs for private households and the public and corporate sectors. What is needed now is innovation, new business models, and products that will create new jobs and reduce inequalities by drawing in entire populations. And since some 65% of climate-damaging greenhouse gases – from sources such as electricity generation, heating and cooling, cooking, and the transportation of goods – come from the energy sector, the use of sustainable energy also plays a central role in containing climate change. At the same time, however, figures from the International Energy Agency (IEA) show that global demand for energy is soaring [27]. Agenda 2030 addresses the correlation between climate, energy, and equality, calling for guaranteed access to affordable, reliable, sustainable, and

modern energy services by 2030 in its SDG 7. It is also clear that Agenda 2030's climate action goal (SDG 13) can only be achieved if all countries switch to 100% renewable energy sources and significantly improve their energy efficiency. Given the global renewable energy production potential, these goals are achievable if current technological developments can be harnessed and the active participation of entire communities ensured (Fig. 3).

Figure 3. – Global energy potential for the production of renewables [28]



But what exactly does **community participation** in energy provision mean and why does it play a central role in achieving national and international development goals? First and foremost, participation means placing energy in the hands of the people, i.e. ensuring the active involvement of all population groups – including women and men and

irrespective of age, ethnicity, sexuality, religion, income, etc. – from the planning stage right through to the implementation of new renewable energy systems. This type of energy supply is necessarily decentralised, where decentralised means using the electricity generated from renewable sources in a particular place primarily to meet energy demand (electricity including mobility and heat) in that place, with resale being regarded as a purely secondary use. Interpreted in this way, decentralisation can bring direct advantages for the people who live and work in the place and its region [26]. The democratic involvement of the entire population in the energy supply is important because it can speed up large-scale electrification and affordable access to energy, particularly in rural areas, and because it does not require access to a central electricity grid. It can also help to close the gap between individuals and energy technologies that are often perceived as overcomplicated and to achieve independence from utility companies and electricity price fluctuations, as well as enabling a wider population to benefit from energy production and distribution.

Decentralised renewable energy solutions can be used to create viable and affordable options in locations where people need energy but the installation of a public electricity grid is still some time off. In some regions that are not (or cannot) be connected to a public electricity network or where the electricity supply is unreliable, decentralised renewable energy technologies such as solar installations, small wind turbines, and small hydro-electric and bioenergy plants offer the only options for access to energy [25]. There are various models for the local implementation of these technologies, including stand-alone solar systems for households, small businesses, and energy communities. A solar home system generally consists of a single solar module on the roof, a battery, and one or more lights. These solar modules generally produce less than 100 W, but depending on size and access to a solar inverter, they can also be used to charge other devices such as televisions, radios, fridges, air conditioning units, and mobile phones [29]. In countries in which night comes early, in particular, lighting is essential for learning and reading and for income-generating manual work such as sewing, basket weaving, and mechanical repair services. These modules also save on the use of paraffin lamps and diesel generators which, though commonplace, are inefficient in economic, health, and environment terms. Decentralised renewable energy solutions also allow individuals to join forces in order to form energy communities or invest collectively in large-scale renewable energy technologies, thereby generating economic benefits such as the ability to cool milk products and drinks, dry fruit, charge mobile phones, or operate water pumps for agricultural purposes. A decentralised, renewable, and socially acceptable energy supply is the foundation of sustainable development.

3.2 The relationship between energy and gender

Women are central to sustainable development. Equality between women and men is not just a human right; it is essential for a just and inclusive society, an economy with long-term viability and a sustainable approach to our environment and resources. This is why Agenda 2030 names the empowerment and autonomy of women as both a key goal with 45 sub-goals and 54 indicators and as an overarching objective in its preamble [30]. The commitment of women and girls is already containing climate change around the world and preparing the ground for innovative and sustainable solutions in education and health, for greater equality, and for business start-ups. At the same time, however, they also face many barriers both in terms of their rights (e.g. land tenure, borrowing) and their social and cultural roles in society. Despite its contribution to economic growth, the unpaid care and housework carried out around the globe primarily by women is underestimated. Poorer women, in particular, are required to compensate for the lack of public services and access to technology and basic infrastructures through increased

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Globally, women and girls spend between two and 20 hours a week collecting firewood and other traditional energy sources [34].

unpaid work, often under harsh physical and environmental conditions [31]. This includes access to energy..

Girls and women play a key role in energy supply. They are overwhelmingly responsible for collecting firewood and preparing meals. The climate-related scarcity of the biomass required to make fires is resulting in longer walking distances and the valuable time that poor women, in particular, spend collecting firewood (and water) contributes to their income and time poverty. This overlap between income poverty and time poverty affects their opportunities to take part in education, take up paid employment, make social contacts, and take breaks for their own wellbeing. They also run the risk of exposure to harassment and violence while collecting firewood, and the loads they carry can have harmful physical impacts [31]. Meals are often prepared on open fires or using inefficient stoves in closed spaces, another factor that can have adverse health consequences. In 2017, 1.6 million people, predominantly women and children, died as a result of indoor air pollution. This represents 3% of all deaths worldwide and 6% of all deaths in the Global South [32]. Women are particularly affected by energy poverty due to their economic and social situations. The empowerment of women in all the activities of everyday life and access to basic resources and economic opportunities must therefore be a priority.

How can women be empowered by renewable energies? Since access to alternative energy sources such as solar and biogas help both save time and generate income, some of the barriers and challenges outlined above can be overcome by investment in renewable energy technologies [31]. Research carried out in Brazil, for example, shows that girls in rural areas with access to energy are 59% more likely to complete primary schooling than those in households without. Similarly, more sustainable cooking methods and kitchen stoves significantly reduce cooking times, reduce emissions, save money, and generate more income [24].

How can women be empowered in the energy sector? Although international climate agreements enshrine human and equality rights and require signatory countries to respect and guarantee human and women's rights in all policy fields, these commitments often fail in the implementation. Decentralised business models encourage bottom-up development and, above all, reinforce women's participation in the paid supply of energy. As household energy managers, they should also be closely involved in energy production and distribution, where their expertise and place in community and family networks are invaluable [24]. The increased participation of women in educational initiatives, i.e. in primary and secondary education and basic training in renewable energies at vocational schools, paves the way for their empowerment in the energy sector. Building on this, it is vital for more women to be actively involved in energy businesses and energy policy and to occupy senior decision-making posts. There is also scope for them to set up energy communities on the ground, gender-responsive or women's cooperatives, for example, to create employment and business opportunities through renewable energies in rural regions.

3.3 Situation analysis and evaluation (gender analysis)

Previous gender analyses provide insight into the situation on the ground. They underpin target group-oriented project design and implementation and help formulate the framework for a gender-responsive policy to counter structurally and institutionally embedded inequality at all levels. Analyses should be conducted at various levels and with both future stakeholders and target groups before a project starts. A range of examples is given below..

3.3.1 Situation analysis and evaluation (gender analysis)

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National gender analysis

- What is the general legal, political, and economic situation in the partner country?
- What gender-equality goals, treaties, and guidelines exist?
- What rights are common to all genders?
- How is gender equality actually implemented in the country?
- What is the country's population structure?
- How is the country's labour market structured?

Energy-related national gender analysis

- Do important energy policies and strategies refer to gender? If so, to what extent?
- What is the state of electrification in the country? Who has access to energy and what kind of energy is it? What is the energy mix in the country?
- Who is represented in the energy sector and how is it structured?
- Who are the energy policy players?
- What energy goals have been set? Are there goals for decentralised energy supply and the involvement of all sections of the population? Is there basic support for decentralised structures?
- What agencies/ministries are responsible for renewable energy?

Stakeholder-specific gender analysis

- What NGOs and experts are working on equality and gender-responsive energy supply issues?
- What is the level of your partners' gender and energy expertise in the country?
- What gender and energy networks do your partners have access to?
- How do your partners approach gender in structural and staff terms?
- Are gender audits carried out in the partner organisation?

Target-group-specific, energy-related gender analysis

- What are the gender roles and responsibilities (income generation, reproduction, community activities) in the community, households, paid employment, and public decision-making?
- What are the potential gender barriers in the community, households, paid employment, and public decision-making?
- What energy access opportunities do the different genders have?
- What type of energy is used for lighting, cooking, heating, and cooling, and why?
- How is 'energy' procured, by whom and how much time does it take?
- Is energy paid for? What are the (monetary/non-monetary) costs?
- Is energy affordable for all, in particular for poor women?
- Who is responsible for providing energy for individual tasks within the household?
- What are the energy consumption needs?
- If a new energy technology is to be introduced, is there any notion as to which one it might be?
- What are/might be the preferences in terms of the use of and options for current and future technologies?



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- Would the new technology increase or reduce the burden of work on women?
- Are users aware of the need for efficient energy consumption, the availability of other affordable options and how these are used?
- Can women play an active part in energy supply?
- Are women aware of the health impacts of open fires and inefficient stoves?
- Are women members of existing communities or groups?
- Do women have access to loans to invest in renewable energy technologies and set up microbusinesses?
- Do women have a say in energy consumption and energy production?
- Are there energy-based businesses in the project region?
- Are women able to set up or work in these businesses?
- Are there local service providers such as vocational training schools that can pass on knowledge about renewable energies to women?

Responses to some of these questions and a picture of the situation on the ground can be obtained by carrying out primary and secondary research. Secondary research may include consulting scientific studies, gender-differentiated statistics, and country analyses with a gender perspective, CEDAW documents and past project reports. The case study below gives a brief summary of the results of an analysis performed for Uganda.

Case study: Uganda

Population: 42.7 million

Capital: Kampala

Languages: Swahili, English, Luganda, and other regional languages

Income: low income (GDP per person was USD 642 in 2018)

Economic inequality: high (the Gini coefficient was 42.8 in 2016)

Government: democracy (same president since 1986, opposition parties obstructed)

Civil society space: suppressed

National situation:

Patriarchal structures and traditional gender norms continue to represent one of the major obstacles to equal rights for women in Uganda. Uganda has ratified the UN Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) and gender equality programmes, including quotas for parliamentary elections (26.5% of seats in parliament area reserved for women), are in place. The actual number of women in parliament is 157 out of 452 (34.7%). Uganda performs fairly well in terms of political participation, occupying the 35th position worldwide. However, this indicator does not take into account the low level of women's participation in local and regional decision-making bodies [33].

Uganda has a relatively good economic participation rate by international standards, though the poverty rate is very high. The average gross national income is USD 684 per person per annum. The economic situation of women in Uganda is on the whole poor. Unemployment is very high, in particular amongst young women and men. 70% of the population rely on subsistence farming for their livelihoods. Poor access to reliable and clean sources of energy is a major economic obstacle for women in Uganda.

Young people make up 75–77% of the total population of Uganda. The country performs particularly badly in terms of gender equality in education, in 129th place, with girls representing just 22% of the secondary school population. Youth unemployment sits at 13%, which is high but corresponds to the global average (14% in the EU). The difference lies in the fact that most young people are underemployed with insecure employment conditions: 83% work in the informal economy, the majority in subsistence farming.

National energy situation:

Only 4% of the rural population has access to the (often unstable) public electricity network. This lack of access to electricity affects not only private households but also (agricultural) businesses and public institutions (e.g. schools and hospitals). There is heavy use of paraffin for lighting and diesel generators for electricity generation, despite the fact that both paraffin and diesel are expensive. Energy consumption for cooking is still predominantly dependent on biomass (wood: 78.6%, charcoal: 5.6%, crop residues: 4.7%). One side effect of firewood use is deforestation with irrevocable environmental consequences (forest coverage has dropped from 24% in the 1990s to 7% today). It is primarily men who are active in the formal energy sector, predominantly in large hydropower projects.

Stakeholders:

We work on project design, implementation, and evaluation with ARUWE (Action for Rural Women's Empowerment), a grassroots women's non-profit that has been championing women's empowerment for over ten years, and with Caritas Luweero, an organisation whose main goal is to empower the poor on the ground. Our partners in cooperation and in the implementation, operation, and use of energy systems are local agricultural cooperatives in Luweero, Kyankwanzi, and Kiboga, and a model farm in Kyankwanzi. Advice, expertise, and the development of gender-responsive funding plans were delivered in conjunction with Ugandan credit cooperatives including savings and credit cooperative societies (SACCOS) and village savings and loans associations (VSLA) organised primarily by women. We were able to guarantee good levels of quality management and sustainability through expertise, networking, and advice from UNREEA (Uganda National Renewable Energy and Energy Efficiency Alliance) and GIZ Uganda. Technical expertise on the various technologies used and the management of energy cooperatives was provided principally by solar energy businesses and energy cooperatives from Germany.

Target-group gender analysis:

There is no public electricity network in the project area and it would be unaffordable if present. Traditional role distribution means that women and girls are largely responsible for sourcing firewood, which they collect before or after school or work. Walking sometimes long distances at dawn or dusk can be dangerous and both women and girls are very frequently subject to harassment. Meals are generally prepared in small kitchens (particularly during the rains) in which cooking is done on an open fire. Lighting is provided by paraffin lamps and candles. Mobile telephones are generally charged in the nearest town or village that has solar energy provision or access to the public electricity network. Mobile phones are often the only electronic devices.

Women are generally responsible for the household; men tend to pursue paid employment, primarily in agriculture. However, incomes are low and product quality often mediocre. These factors result in a lack of employment opportunities and prospects, particularly for young women and men. While men increasingly seek work in towns and cities, women more frequently remain at home, farming the land and caring for family members. Both women and men have joined forces to form agricultural cooperatives in order to deal with challenges such as market price fluctuations and transportation. Farmland and cooperative shares are owned almost exclusively by men, while everyone – men and women – shares the work on the land (women are largely responsible for cultivating food crops, men cash crops). The job opportunities outside agriculture required to provide other prospects do not exist.

Women-run microbusinesses that can contribute to household income are generally located in or near the home and so inextricably linked with household energy consumption. Improving access to and the affordability of energy could contribute to the development of women's businesses. However, knowledge about alternative energy sources is very limited, not to say non-existent.

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During the primary analysis, tables offer a useful way of structuring a more specific gender analysis of the target groups and the local situation. They help reflect a range of gender dimensions and build up profiles of activities, access to resources, control of resources, and participation in decision-making, for example. The table below covers various gender dimensions and potential questions. Further possible questions are included in the gender tool kit published by the Asian Development Bank [34].

Dimension	Who?	How?	Where?	When?	Why?
Work	who does what?	How is it done?	Where is it done?	When is it done?	Why is it done?
Access	Who uses what?	How is it used?	Where is it used?	When is it used?	What is it used for?
Control	Who controls what?	How is it controlled?	Where is it controlled?	When is it controlled?	Why is it controlled?
Information	Who knows what?	How is this information provided?	Where does it come from?	When is it acquired?	Why is it known?
Benefit	Who benefits from what?	How are benefits reaped?	Where are benefits reaped?	When are benefits reaped?	Why are benefits reaped?
Participation and decision-making power	Who is involved?	How is she/he involved?	Where is she/he involved?	When is she/he involved?	Why is she/he involved?

3.3.2 Gender targets

Project goals and indicators are determined with local partners using the results of the gender analysis. The goals set for the gender-responsive energy project in Uganda were as follows:

- First and foremost, provide women with access to clean, self-produced energy through solar, biogas, and briquettes in rural households (SDG 7).
- Reduce greenhouse gas emissions and mitigate climate change. As women are disproportionately affected by climate change, the containment of environmental and climate changes is particularly beneficial to them (SDG 13).
- Empower women and girls specifically as energy managers in homes and cooperatives and as energy ambassadors in the social, technical, economic, and political context (SDG 5).
- Reduce (energy) poverty amongst women and accelerate the pace of sustainable development in rural areas (SDG 1).
- Create business models, access to finance, and secure jobs for women in rural areas by improving the agricultural added value chain and creating prospects in the energy sector, in particular for young women and men (SDG 4, 8, 9, 10).

- Train young women and men in the construction, use, operation, and maintenance of energy and water technologies, as well as the dissemination of needs-based technologies (SDG 4, 5, 6, 7, 9).

3.3.3 Outputs and activities

Gender analysis results were used to formulate project goals and so to implement specific outputs. Together with Ugandan partners, courses were organised to train women and men to design and install the necessary technology and construct new business models as part of a decentralised citizens' energy scheme.

The production of green, decentralised citizens' energy is seen as a promising approach to the provision of access to affordable energy in rural areas, meeting the increasing demand for energy whilst avoiding the harmful effects of carbonisation on health and the environment and improving women's living standards. Citizens' projects also create new employment perspectives for women and men and give the entire community the opportunity to organise and participate in a reliable, affordable energy supply for themselves. Women and men assume different roles and have different needs in the household and in existing (agricultural) cooperatives. The differing needs, energy supply impacts, and levels of access to energy for women and men are considered at the planning stage. Women often already play an active, dynamic role in village and community life. Where this is the case, a citizens' energy project can give women an institutionalised and audible voice.

The technologies listed below are planned in collaboration with existing cooperatives. By providing information, training and practical experience, it is possible to demonstrate the opportunities and advantages of energy technologies in a 'hands-on' manner and show how they can make a tangible difference to incomes.

- Production of briquettes (as a replacement for firewood) using a briquette press; rental of presses by cooperatives; briquettes to be used by participants themselves or sold on.
- Energy-efficient (briquette-burning) stoves; information events and widespread dissemination of information by members to all users to increase acceptance of the stoves and ensure they are actually used in the long term.
- Off-grid solar systems fitted on cooperative buildings for drying, storing, cooling, processing, and providing electricity for members (mobile phones).
- Solar pumps for regulation irrigation and to reduce workloads.

The training courses listed below are delivered to enable participants to build, install, and operate these technologies, and to empower women in particular. Staff at partner organisations and local authorities contact women and invite them to attend.

Women are contacted in a targeted manner to increase participation and empowerment levels. Safe transport solutions and, in some cases, child care are organised. Sessions are planned to fit into women's daily routines. Where possible, attendees are reimbursed out-of-pocket expenses.

- 1. Overview training for women and men:** To provide a detailed overview of the technologies involved, their advantages and benefits for households, and management and marketing techniques at the cooperative level. Designed first and foremost to reduce potential barriers to women on technical issues.
- 2. Service training:** Service engineer training providing a detailed overview of the technologies involved and the skills required to operate the systems, carry out maintenance work, troubleshoot and call in experts to deal with major faults. This produces clear lines of responsibility and so guarantees sustainable use of the technologies.

- 3. Briquette production:** The briquette training course explains how to use the briquette press and provides a step-by-step guide to production. Women are very interested in learning these skills and in establishing a business model for making and selling briquettes.
- 4. Setting up and managing energy communities:** Showcases methods and tools for planning and setting up gender-responsive energy communities.
- 5. Development of sustainable business models** involving (solar) charging stations in villages or briquette production, for example. Specific training for women in the development and promotion of business models.
- 6. Energy ambassadors:** This course is aimed at women and girls. They receive technical and practical skills and training in the relevant energy technologies and associated economic and environmental advantages for their communities, and in how to apply this knowledge and share their convictions with other women, neighbours, and women's groups in a systematic way. User-friendly information materials are devised and developed with the women at these sessions.

3.3.4 Gender tools

A wide range of gender tools have been developed within the framework of development co-operation projects and programmes. A key element in designing and implementing gender-responsive energy projects is the ability to use the relevant tools from a 'toolbox' and to adapt and develop them in line with the local institutional context.

Gender tools can be divided into the following basic categories [35]:

- analytical tools, e.g. gender analyses,
- training tools, e.g. for sharing gender skills, capacity building, empowerment,
- participatory tools, e.g. advocacy training, hearings, round tables, inter-ministerial working groups,
- reviewing tools, e.g. goals, indicators, monitoring, evaluation.

The following gender tools were used in the project:

1. Capacity building for women and men

- Overview training: technologies, benefits, operation, management, finance, marketing
- Intensive training for service engineers in operation, servicing, and maintenance
- Training in briquette production using a briquette press for own use and sale
- Setting up and managing energy communities

2. Capacity building for women

- Intensivtrainings für ‚Energiebotschafterinnen‘
- Entwicklung eines Handbuchs für ‚Energiebotschafterinnen‘ für Multiplikatorinnen
- Entwicklung von nachhaltigen Geschäftsmodellen
- Advocacy-Trainings für interessierte Frauen
- Organisation der Trainings: Uhrzeit, Kinderbetreuung, sicherer Transport zu den Trainings, Übernachtungsmöglichkeiten

3. Geschlechtergerechte Kommunikation

- Development of information materials on energy technologies for women (avoiding stereotypical representations, highlighting advantages, clear presentation)
- Targeted contacts with women through women's organisations, Caritas, etc.
- Information events about training courses and opportunities for all family members organised by an accepted local organisation (e.g. Caritas)

3.3.5 Indicators

The following indicators were established for use in monitoring the goals set.

- **Participation**

- Number of citizens, politicians, cooperative members informed about the advantages and implementation of renewable energy technologies, including number of women and number of men
- Interest manifested by citizens in committing to and training in technologies and energy policy, including number of women and number of men
- Number of citizens taking part in regular meetings with local politicians and expressing their needs, including number of women and number of men

- **Empowerment**

- Number of women and men trained in 'energy communities'
- Number of women and men trained as service engineers
- Number of women trained as 'energy ambassadors'
- Number of women joining forces to form new energy supply women's groups
- Number of women taking up paid work in the existing energy sector
- Number of women founding microbusinesses

- **Commitment to a gender-responsive energy policy**

- Number of initiatives organised by project partners to establish women's quotas in energy policy and support for women in business (e.g. letter to national politicians, participation in local, national, and international conferences)

3.3.6 Monitoring and evaluation

Monitoring is based on the collection of baseline data (baseline assessment), i.e. understanding the actual situation on the ground before or at the start of a project using the indicators set out above (see also needs analysis/gender analysis). This is important to document changes. Progress is checked using the indicators on a regular basis during project delivery by one of several methods. A basic distinction is made between 'hard' indicators (quantitative indicators, e.g. the number of women and men trained) and 'soft' indicators (qualitative indicators, e.g. interest in renewable energies).

Hard indicators are easy to measure and can be assessed by recording the details of events, the number of systems installed, etc. Soft indicators are ascertained by means of questionnaires. However, this method can only be used to assess the impact of a project where identical questions have been previously asked at the start of the project. Ideally, this same baseline data is collected again at the end of the project to highlight any differences.

Important information is also obtained through observation, informal conversations with participants and stakeholders, and from individual anecdotes reported during the course of the project. This provides subjective information rather than measurable facts, but it can also have a considerable effect on project success. For example, informal conversation is a good way of gauging the mood within a target group and provides a form of feedback on how the project is being received.

Gender issues are always factored into data collection. Some of the indicators listed form intrinsic parts of the gen-



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der strategy, e.g. women's quotas and support for women, but gender issues are also taken into account in other indicators. When recording figures – the number of participants at a seminar, for example – it is always important to make a distinction between women and men. Similarly, answers to surveys and questionnaires are always collected separately for women and men.

The data collected during monitoring measure the progress of a project. The purpose of evaluation is to provide feedback on targets and to view project impact with a critical eye. It looks at both processes and outcomes. It is useful to carry out monitoring not just at the end but also regularly throughout the course of a project in order to be able to respond to changes as they occur. Evaluation can help ascertain where things are going wrong and adapt targets and strategies accordingly. Helpful questions may include, "Have we achieved our targets? Did everything go according to plan? If not, why not? What can we improve in the future?" Regular internal evaluation within the project team and collaborations with partners, stakeholders, and target groups is equally important. A final, comprehensive evaluation can provide valuable information to feed into the planning of future projects.

Case study: Georgia – a gender-responsive energy programme in Georgia

Situation in Georgia:

Georgia has a patriarchal culture in many respects. Women are underrepresented in leadership roles in politics and the economy and experience structural barriers. They make up only 15% of the Georgian parliament (23 members). At the local level, the figures are even worse. No women hold governorship posts and there are only 64 women mayors. 13% of seats on municipal councils are occupied by women. Women are traditionally responsible for the majority of unpaid care work.

Some 32% of the Georgian population live below the poverty line. The economy is based principally on tourism and agriculture, particularly in the wine production and subtropical crop sectors.

Gender and stakeholder analyses:

Data was collected from a number of gender analyses to design and implement gender-sensitive outputs.

National level in the energy sector:

As a net importer of oil and gas, Georgia is highly dependent on imports of fossil fuels to cover its energy needs. Domestic energy generation covers less than a third of the country's primary energy requirements. In 2016, 40% of its total primary energy supply came from natural gas, 30% from oil, 17% from hydroelectric power, 8% from biofuels, and 5% from coal [36].

Due to Georgia's abundant water resources, hydroelectric power (controversially) dominates electricity generation. Hydroelectric power produced 81% of the country's electricity in 2016 (with small-scale hydropower responsible for just 4%).

Despite their enormous potential, renewable energy sources other than hydropower remain unutilised. According to UNDP estimates, solar/photovoltaic power alone could produce 97,000 MW [37], nine times the total electricity generation capacity required. The first wind power plant with a total output of 20.7 MW was built in 2016 with financial support from the EBRD..

Regional/local government level:

Approximately half of the population, two million people in rural areas, use wood from non-sustainable forestry for heating and cooking using non-efficient wood-burning stoves. The firewood officially made available by the Georgian National Forest Agency covers only some 25% of demand, contributing to illegal logging and gradual deforestation [38]. On average, approx. 30% of

incomes are spent on energy, resulting in widespread energy poverty. Women and girls are particularly affected. They carry out a considerable amount of unpaid work and suffer extreme indoor air pollution as a result of inefficient wood-burning stoves. Social and cooperative structures are fragile and characterised by deep distrust of the authorities.

Project overview

In 2009, WECF started working with local partners to develop solar water heaters (SWH) in a bid to reduce energy poverty and the use of non-sustainable firewood. By 2016, WECF had trained some 150 people, who had in turn built 500 solar water heaters using local materials, which they then installed and intensively monitored. As described below, all initiatives and in particular all training sessions were planned and delivered according to gender equality principles. Once the technology was well developed and established and efficiency and pay-off period data were available, four cooperatives were formed with local players. The aim of these was to provide a reliable and sustainable energy supply in a democratic, gender-equal manner, and to build at least another 350 solar water heaters.

Gender-responsive capacity building

Women's quotas and the division of labour: As part of the programme, trainers (50% women) were trained and subsequently passed on their knowledge to local authorities and beyond, generally in the form of 5-day practical courses on construction, maintenance, and monitoring. Women's quotas of 50% were achieved in all cases, through gender-equal communication and recruitment and the appropriate delivery of training sessions (language used in materials and training, practical course times for women, childcare, transport options).

After careful analysis and consultation, a division of labour between men and women was developed in which men worked in construction while women occupied mainly maintenance, operation, and monitoring roles.

Leadership training courses: To promote the creation of energy communities and, in particular, energy cooperatives, women were briefed and trained in the preparation, creation, and opportunities provided by cooperatives as a democratic and gender-equal business model. A trip to Germany and personal exchanges with individuals active in the energy transition were organised.

Once the energy communities had been created, additional leadership training courses were organised for women in order to identify and challenge patriarchal behavioural patterns, empower women, and highlight opportunities for active engagement in sustainable and just access to energy for all.

Multipliers: To raise the profile and increase acceptance of the technologies involved, some 200 energy ambassadors were trained to promote and spread the cooperative business model and technologies. They were financially rewarded for each successfully recruited solar water heater customer or cooperative member by the payment of a small commission.

Training in this programme was initially provided for women only. Though analysis showed that it was women in particular who recognised and benefitted from the advantages of the technologies, it proved necessary to involve other family members for investment decisions. Now some 70% of trainees who have completed the multiplier training course are women and 30% men, and the interests and needs of all family members have been taken into account.

Upskilling partner organisations: A stakeholder analysis was carried out to identify the important partners. The local partner organisations, banks, and solar energy technicians received awareness-raising training and ongoing courses in gender tools and participatory methods.

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Traditionally, environmental organisations in target countries such as Georgia are relatively inexperienced in gender issues. However, they arouse considerable interest and the situation is changing fast.

The gender-responsive energy cooperative business model

The construction, installation, maintenance, and funding of renewable energy solutions can be organised locally through the creation of local energy cooperatives that provide opportunities for community participation and regular information.

In this project, the creation of an umbrella cooperative brought together a number of key areas including economic and technical expertise on energy technologies (e.g. solar water heaters), training and quality management. Individual local cooperatives are all members of the umbrella cooperative; when purchasing materials, for example, this allows economies of scale that benefit all the cooperatives and their members. The umbrella cooperative operates a solar collector production site financed by local and international investors. A solar collector pays for itself in approximately three to six years. Funding models involving local banks and the umbrella cooperative mean that almost all households have access to financing.

The specific objectives of the cooperative model are:

- Equal access to and control over resources:
- access to affordable and renewable energy for all sections of the population
- access to loans on equal terms, including for women and low-income households
- Equal participation and decision-making power for women and men
- Greater scope for women to control their own lives
- Reduction of local energy poverty and promotion of energy independence
- Reduction of unpaid work by women
- Community participation in cooperatives and a focus on interventions that increase scope for action, boosting self-efficacy among women and men
- Reinforcement of local value creation chains
- A stronger common voice for political work and in dialogue with decision makers

In Georgia, the creation of energy cooperatives as a sustainable business model permitting the implementation of various gender tools (upskilling, quotas, access to finance, participation, etc.) was largely successful thanks to the democratic approach adopted.

3.4 WECF's gender-responsive approach to energy

WECF implements decentralised, renewable, and gender-responsive energy projects with local partner organisations in the countries of the Global South with the aim of securing access to alternative energies, reducing social injustices and empowering women in the energy sector.

WECF designs, implements, and evaluates its energy initiatives and policy activities in a gender-responsive manner. These initiatives (**output**) are planned and implemented with the aim of improving and achieving gender equality, and long-term changes (**outcomes**) are effected within the target groups through knowledge, behaviour, and structural change. This, in turn, has a knock-on effect at the societal level, as illustrated by Agenda 2030's sustainable development goals (**impact**).

Figure 4. WECF's gender-responsive approach to energy

Outputs

- Needs analysis: gender analysis feeding into the design of further outputs:** The needs, perspectives, and potential of both women and men are considered. A needs analysis is performed as an extended gender analysis at the local and national levels: as a stakeholder analysis involving players, as a target groups analysis examining who takes part and who reaps the benefits of outputs and, in the energy sector, who takes on which roles and who has what access to and knowledge of energy and the market.
- Upskilling and training courses at various levels:** The practically-oriented transfer of knowledge and skills is a focal project area. Young women and men, in particular, receive training in the construction, use, operation, and maintenance of energy technologies, management, finance, and marketing. Specific invitations are issued to women, taking into account their situations and ensuring they can attend (times, transport, childcare, etc.).
- Designing, implementing, and operating the technology:** Decentralised renewable energy technologies provide a resource-efficient and sustainable energy supply with high local value creation. This permits a fast, efficient, and socially and gender-responsive energy transition and the participation of a wide range of individuals. Both women and men are supported through the process by local partners.
- Decentralised business models and local value creation:** Using existing structures and/or setting up energy communities or custom business models. Decentralised business models use local resources (e.g. solar energy and biomass) and increase local value creation, create resilience for community structures, and strengthen the decentralised, local development of the energy supply from the bottom up. Empowerment of women, setting up and development of business models.
- Networking:** There is often no shortage of knowledge and expertise. However, cooperation and alliances between key players are needed to spread and promote new ideas and share experiences. For this reason, there is also a focus on networking and further exchange to promote the development of trust.
- Policy work:** Decentralised energy structures bring many environmental, social, and economic advantages at the local level and help achieve national and international objectives (Paris/NDCs, Agenda 2030, CEDAW, etc.). Women and men are mobilised and motivated to engage in policy work in the fields of energy and gender equality. Advocacy methods and access training is provided in all projects. Partners are invited to take part in international conferences.



We aim to deliver these outputs locally with our partners alongside project advice and support on a long-term basis. Consequently, we seek to convince donors to finance projects not just for one or two years, but for as long as possible.

Outcomes: empowering target groups (knowledge, behaviour, conditions)

- **Decentralised renewable energy systems with more women and men as energy managers:** The creation and development of additional energy infrastructures to improve energy supplies in rural regions that are (still) often excluded from central structures. Local community members produce sustainable energy and use it locally.
- **Environmental and climate protection:** The sustainable use of resources through solar energy systems, briquette-burning stoves, and biogas plants reduces deforestation and the use of resources such as diesel and paraffin that are harmful to both the environment and health, thereby reducing emissions. Regions with less deforestation also have higher water retention levels and so a reduced likelihood of erosion, the resulting landslides, and other negative climate and environmental effects.
- **Regional value creation:** Local energy production and access to energy for existing business boosts economic activity. This helps with capacity building, creates new jobs, generates (higher) incomes and so reduces rural to urban migration. In the long term, it results in reduced energy and economic poverty.
- **Resilient households and communities:** Producing their own renewable energies helps households and communities better respond to social, economic, and environmental change. This includes greater independence vis-à-vis changes in market rates for firewood, paraffin, and diesel, and so helps stem the rural exodus.
- **Empowerment at various levels:** Women and girls are given access to affordable, renewable energies, thereby counteracting energy poverty and creating more time for schooling and/or paid work. This creates greater independence and self-determination for women and girls and gives them a place in the energy sector. Women are enabled and encouraged to engage in technological, economic, and policy activities at various levels.

3.5 Outlook

Renewable energies provide sustainable alternatives to traditional fossil-fuel and centralised energy systems and so offer great environmental, social, and economic potential. The empowerment of women and men and access to basic energy resources and economic opportunities must be a priority, and can be achieved using the gender tools described above. Capacity to consider a variety of needs, interests, and situations in project design and implementation not only results in greater gender equality (and avoids reinforcing inequalities); it also helps achieve higher project acceptance levels, extend project reach and improve sustainability. Gender-responsive, decentralised, renewable and socially acceptable energy supply projects provide the basis and act as catalysts for sustainable development.

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“Women play a central part in the provision, management and safeguarding of water. [...] Acceptance and implementation of this principle requires policies to address women’s specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.”

[\(Dublin Statement on Water and Sustainable Development, Principle 3, 1992 \[39\]\)](#)

4.1 Women and WASH

The role played by women in the field of water management was first recognised at an international meeting of water experts held in Dublin, Ireland, in 1992, and set out in its Principle 3 as cited above. Target 6.2 of the UN’s Agenda 2030 for Sustainable Development, adopted in 2015, explicitly demands that “access to adequate and equitable sanitation and hygiene for all” be achieved by 2030. It also calls for the end of “open defecation, paying special attention to the needs of women and girls in those vulnerable situations” [40]. Yet despite this acknowledgement, women are frequently excluded from important decision-making; they have little control over the use and allocation of water resources and lack access to the necessary financial means, technologies, and relevant vocational training.

All water, sanitation, and hygiene (WASH) projects have gendered outcomes and impacts on power relations, for instance, whether intended or not. What we do and how we do it either reinforces, neutralises, or helps transform gender and power relations within and outside WASH [41]. For this reason, it is imperative that we identify the different roles and needs of women and men in dealing with water resources and sanitation facilities, and incorporate them in project design and implementation.

4.2 Gender-specific differences in the WASH sector

Firstly, it is important to analyse and understand the gender-specific differences between women and men and so to make appropriate adjustments in the design, planning, implementation monitoring, and evaluation of WASH projects. The sub-sections below offer an overview of gender-specific differences in the WASH sector [42] [43].

4.2.1 Biological factors

A. Menstruation On any given day, around 300 million people globally are menstruating. They need a private and accessible toilet to change their menstrual products, water and soap to wash their hands, bodies and any reusable products, and a place where they can dispose of sanitary products in a safe, culturally appropriate and dignified way. Unhygienic conditions are harmful to the health, mobility, and dignity of women and girls. For example, menstruating girls often stay away from schools with inadequate sanitation facilities during their periods, with negative effects on their education.

B. Pregnancy and the perimenopause A woman’s need to use the toilet is often increased during pregnancy and the perimenopause, in particular, because her bladder is weakened or compressed. Hormonal changes during perimenopause can lead to heavier bleeding, requiring frequent changing and washing of sanitary pads. A lack of appropriate facilities can pose a health risk and have negative effects on mobility and dignity.

4.2.2 Social and cultural factors

A. Appropriate behaviour It is easier (although not desirable) for men to urinate outside than women. Women and girls are more restricted by what is considered acceptable and appropriate behaviour (i.e. gender norms) and by pressures to maintain 'dignity' and 'modesty'. When toilets are not available, women and girls often restrict their eating or drinking to delay the need to use a toilet. This can be damaging to both their health and quality of life.

B. Responsibility for collecting water Women are typically responsible for collecting and purifying water for household use. The chore is often associated with walking long distances; it takes a long time and requires significant effort which, in turn, leads to extreme time and physical burdens and prevents them from attending school or taking up employment.

C. Care duties Women are generally responsible for supporting and caring for other family and community members (children, sick or elderly relatives, and the disabled). This includes people who become ill as a result of waterborne contaminants. Women often have to take small children with them when they go to collect water, and this constitutes a considerable additional burden. They also frequently have to accompany others to the toilet and so need adequate facilities. These care duties often prevent women from taking part in social and political processes relating to water and in training activities.

D. Physical and social risks Travelling long distances to water supply points or communally used toilets can be dangerous for both men and women. However, women, transgender people, the disabled, and children are at greater risk of sexual and physical violence and harassment – particularly when relieving themselves outdoors and taking unsafe and poorly lit routes to the toilet.

The physical effort involved in carrying water can prove particularly detrimental to muscle and bone development in growing children and places particular strain on pregnant, ill, and older women.

E. Inequitable water distribution and influence over services Women's access to water may be impeded for three primary reasons.

- i) They may lack influence within existing water management bodies. This limits their ability to influence and change decisions about water distribution.
- ii) They may lack purchasing power and have limited access to the financial resources required to procure water of sufficient quality and in sufficient quantity.
- iii) Water collection activities are perceived as less essential to family livelihoods – particularly in comparison to the paid work carried out by men. This makes women undervalued water resources users.

F. Limited land tenure and property rights Women in many countries are forbidden from owning land, which greatly restricts their access to water resources. Without land tenure they cannot join agricultural and water user associations, and have no voice in water-related reforms. Social and cultural norms can also prevent women from obtaining loans to purchase the technology needed to increase water efficiency, for example.

G. Household-level food production priorities, and decision-making In many countries, women grow food crops for household consumption while men are generally responsible for income-generating farming and irrigation management. Agricultural activities overseen by men are often prioritised over those carried out by women.

H. Unequal access to information, training, and technology Competing demands for women's time (e.g. due to household responsibilities) limit their opportunities to complete training courses and learn new skills, including those involving (new) water technologies. Although it is often

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assumed that men, as heads of households, pass new information about the use of water and sanitary facilities to women, experience has shown that this is often not the case and that such assumptions exacerbate women's dependence on men within the community.

4.3 Gender sensitive data

Data provide an important basis for decision-making both in the design and implementation of projects and in the formulation of political strategies and regulations. The WHO/UNICEF [Joint Monitoring Programme for Water Supply, Sanitation and Hygiene](#) (JMP) [44] provides comprehensive gender-sensitive country data on drinking water, basic sanitation, and hygiene with a focus on inequalities. These data offer an overview of the situation in our target countries.

Data are available for most countries on the basis of household surveys carried out as part of the [Multiple Integrated Cluster Survey](#) (MICS) [45], in which households but also individual women were questioned. The "Unmet need" section included questions on menstrual health that shed light on the situation on the ground. These surveys, including all questionnaires and the country-specific evaluations and reports, are available on the MICS website.

4.4 Gender mainstreaming in the WASH sector

If WASH projects are to be implemented effectively, it is important to build a 'gender lens' into each phase of the project cycle. This covers the three stages of strategic planning, implementation and monitoring, and evaluation [46].

4.4.1 Strategic planning

Strategic planning comprises two steps: situation analysis and programme design [46].

4.4.1.1 Situation analysis and evaluation (gender analysis)

Situation analysis involves identifying gender-specific (e.g. social and economic) WASH barriers and opportunities for overcoming them [46]. It also includes comprehensive evaluations of WASH needs as well as analysis of potential outcomes, stakeholder willingness-to-pay surveys and feasibility assessments [42]. This analysis should be participatory and extensive [43], and start as early as possible in the programme cycle [42].

A gender analysis can be a process of asking and answering a series of questions related to a particular area of WASH and of disaggregating the answers by sex. This can be done in a workshop setting with partner organisations, community representatives, users and other stakeholders, for example [41]. The four-part "[UNESCO WWAP Toolkit on Sex-disaggregated Water Data](#)" provides an innovative tool for collecting, analysing, and interpreting sex-disaggregated WASH data. [Tool 1](#) [47] offers a comprehensive and detailed list of gender-responsive indicators for situation analysis covering the following topics:

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Table 1. Gender-responsive indicators for situation analysis by topic

Gender-responsive water governance	Gender-responsive water policy frameworks
	Gender-responsive management in water governance institutions
	Gender-responsive implementation of water programmes and projects
	F/M participation in local or community, formal and informal water institution
Safe drinking water, sanitation, and hygiene	Household access to safe water for drinking and domestic use
	Intra-household responsibility and decision-making
	Household access to safe sanitation and hygiene
	Access to safe sanitation and hygiene in communal and public places
Gender-specific knowledge resources	Documents and publications related to gender and water
	Outputs from water-related scientific panels and advisory boards
Transboundary water management	Gender-responsive governance in national/international water authorities and commissions that deal with transboundary waters
	Gender-responsive transboundary water programmes and projects
	Impact of transboundary water actions and projects on F/M members of local communities
Water for agricultural uses	Access to irrigation
	F/M paid and unpaid labour in agriculture and irrigation
	Intra-household decision-making
Water for industry and enterprise	Gender-responsive management in water-related industries and enterprises
	Access to income and credit for F/M managers of water enterprises
Human rights-based water resources management	Gender-responsive governance framework and implementation of the human rights to water
	Availability, affordability, acceptability, and quality of water for F/M consumers
Water, migration, displacement, and climate change	
Indigenous and traditional knowledge and community water rights	Access to customary water rights for F/M members in the community
	F/M traditional knowledge, practices, and roles in water management
Water education and training	F/M access to skill development for career enhancement
	Gender sensitization training
	F/M access to formal, informal, and vocational water education, training, and employment
	F/M access to skill development at the community level

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[Tool 2](#) [48] sets out various methodologies for the collection of data and indicates different indicators appropriate to each methodology. [Tool 3](#) [49] (Guidelines) outlines the regional relevance of indicators and useful sources of information for individual indicators. [Tool 4](#) [50] provides a series of useful questionnaires that can be used to collect data for various indicators.

The WWAP Water and Gender Toolkit was developed to help UN Member States bridge the gaps in sex-disaggregated water data and create gender-specific baseline WASH knowledge at the regional and national levels. However, the tools lend themselves equally to the performance of gender analyses as the basis for planned WASH projects.

In addition to UNESCO's WWAP Toolkit, there are a variety of further handbooks that provide lists of key questions for gender analysis. Table 2 offers a compilation of such key questions intended to provide greater insight into the gender-specific WASH situation in a given project country.

Table 2. Key questions for context-related gender analysis (selected)

Gender relationships and roles
Current analysis of country situation for information on: <ul style="list-style-type: none"> • the status of women and girls (e.g. sex-disaggregated figures for school enrolment, work-force and political representation, health status, gender-based violence) and • the roles and policies of ministries and other institutions in addressing gender-responsive development [46]
Gender relations as seen in the division of labour and access to and control over resources [42] <ul style="list-style-type: none"> • Who currently performs what activities and at what levels – household, community, or sub-national/national? Who does the activities that generate an income or tangible benefit? Who does the activities in the household (raising children, cooking etc.) [41] • Who currently owns, controls and manages what resources? (e.g. household income, agricultural and other land, work, credit, (political) information, capability for leadership, time)? [41] • Who uses WASH resources and how? Who has ultimate control over, or makes decisions about, specific WASH-related resources at the different levels (in the household, in the community, at the local and national levels)? [41] • Which major factors (culture, religion, politics, legislation, etc.) have influence over maintaining gender differentiation relative to a specific area of WASH? [41] How might cultural, religious, political, and time constraints impact the project? [42]
What is the level of participation and leadership of women in the design, construction, and monitoring of WASH facilities? [46]
What are the roles of men, women, girls, and boys in managing WASH facilities and services (repair, maintenance and cleaning, water collection and transport, decision-making on tariffs, etc.) in the home, school, and other locations? Do these tasks reduce opportunities for attending school, income generation, rest, childcare, etc.? Are there safety risks associated with these tasks? [46]
What is the ratio of men to women working on community-based WASH committees and other structures in which decisions are made? [46] [51]
Are there systems in place for training female staff in WASH departments and institutions? [46]
To what extent do existing WASH facilities meet female-friendly requirements (including functionality, accessibility, suitability of location)? [43]

Skills possessed by project partners

Do partners on the ground have adequate gender skills to ensure that the programme can be properly implemented? [46]

Safety

Do women/girls and men/boys feel safe using WASH facilities? Do features of existing WASH facilities help prevent gender-based violence, e.g. sex-segregated toilets, adequate lighting and privacy? [46]

Do WASH community outreach materials contain basic information on gender-based violence (GBV), on minimising the risk of GBV and on where to report GBV risks? [46]

MHM (Menstrual Health Management)

What are the specific menstrual health practices? How is access to information, sex education, materials, and disposal options structured? What are the critical elements of adequate MHM provision? Are the existing WASH facilities accessible for women with disabilities? [46] [51]

How many and which schools have access to adequate sanitary facilities, incl. MHM? [46] [51]

In answering these questions, it is important to take into account and include the following [43] [41]:

- Existing or planned work on urban planning and public or private initiatives
- Regulatory and financial mechanisms affecting WASH, including regional and national plan budgets, bottlenecks in service provision, etc.
- Relevant pressure groups, etc.
- Local authorities
- Government departments (in the fields of public health, engineering, planning, gender, water and sanitation, transport)
- Community-based and not-for-profit organisations
- Women's and youth groups, etc.
- Information from diverse sources, e.g.
- Government and other (local) authority documents
- Research results
- Results and experiences from other organisations
- Interviews/surveys with local residents and relevant organisations
- [Audits](#) (as suggested by WaterAid [52], for example)
- Primary data, etc.

Pages 29-33 of WaterAid's "[Female-friendly Public and Community Toilets](#)" guide [43] offers a detailed list of issues to be considered when carrying out an assessment designed to close infrastructure gaps in community and public toilet provision.

4.4.1.2 Project design

Once gender-specific barriers and opportunities to overcome them have been identified through gender analysis, practical outputs and strategies can be planned. Firstly, it is important to map out which specific outcomes are to be achieved for which people (number of users and groups of users), and how they are to be achieved. These targets must be matched to the financial resources available [46]. In addition, planning should be participatory, involving the local community to achieve strong ownership of and attachment to WASH facilities and avoid them being

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neglected or remaining unused [43]. The table below offers a selection of key questions that can be used to conduct a gender analysis of planned project activities.

Table 3. Key questions for project-related gender analysis (selected)

Links between the context-specific gender analysis and the project
What is the female-to-male ratio of WASH project staff [46] [51]
Will unequal access to project resources and services prevent the project from reaching its goals? If so, how? [41]
How are gender-related beliefs that might hinder project outcomes dealt with? [41]
What gender-related WASH knowledge or experiences that are important to reaching project goals should be incorporated into the project? [41]
In what ways would the proposed project directly or indirectly improve or impede gender-based access to water services, resources and/or overall household assets (e.g. land rights or livelihood opportunities)? [42]
How can existing WASH facilities (in schools, for example) be designed to meet the needs of women and girls (including those with disabilities)? [46] [43]
How could the toilets be operated and managed to make them safe and accessible for all users? [43]
Which female-friendly features should plans prioritise? [43] Are female-friendly activities that address the crucial inequalities and opportunities identified in your situation analysis prioritised? [46]
How are women involved in management, operation and maintenance, and monitoring processes? [43]
How will any planned tariff structures ensure fair and equitable access for all intended users? [43]
What are the most suitable locations for WASH facilities? What spaces should be avoided and why? [43]
Does the time of the activities make them equally accessible to women and men? [41]
How would WASH-task time savings offer opportunities for study time, paid employment, etc.? [46]
Are appropriate sex-disaggregated and gender-specific indicators (see section 2.2.4) included to measure the gender-responsive results you aim to achieve? [46]

Aufgrund der Ergebnisse dieser Analysen können Gender-Indikatoren für das Monitoring und die Evaluierung (M&E) ausgewählt werden. Eine Auswahl von M&E-Indikatoren ist in Kapitel 4.4.3 dargestellt.

4.4.2 Implementation

The project team should continue to ask key questions at regular, predetermined intervals during the implementation phase.

Table 4. Key questions for implementation (selection) [46]

Have you identified and implemented required activities to achieve the proposed gender-specific outputs and outcomes?
Are all WASH facilities well adapted to women's needs? Has sufficient consideration been given to menstrual health management? Are communication messages and activities adapted with input from girls and women?
Have unforeseen gender-specific barriers or opportunities arisen? If so, from where? Have you selected qualified partners? Do your partners require further gender training?
Is project progress sufficiently well documented and reported?
Are women represented on WASH committees and do they occupy positions of responsibility? Have these women received the necessary education and/or training?

4.4.3 Monitoring and evaluation (M&E)

Monitoring provides regular data on the implementation of programme activities and progress towards the achievement of planned outputs to support quality, timely implementation, and enables early course correction. In addition, regular monitoring ensures the transparency of all programme activities [46]. A gender-responsive evaluation will reveal the outcomes of the programme, including the impact of the activities on girls and women. It indicates whether the intended results have been achieved, which were the most effective pathways to these results, which obstacles emerged [46], and any gender-specific differences not obvious at the project design stage [42].

The M&E methodology is devised as soon as the project outputs and outcomes have been clearly defined. This includes deciding on relevant indicators for measuring intermediate and final outcomes, determining data collection strategies (e.g. sources, frequency, responsible agencies, and budget), and collecting baseline data [42].

Below is a list of selected qualitative and quantitative indicators that can be used for WASH projects.

Qualitative Indicators

The following are frequently used as qualitative indicators.

The impacts of activities designed:

- to address the practical gender-specific needs of women and men (e.g. their needs for new skills, knowledge, resources, opportunities, or services in the context of their existing gender roles) [42]
- to increase gender equality of opportunity, influence, or benefit (e.g. targeted actions to increase women's contribution to decision-making or the opening up of new opportunities for women and men in non-traditional skill areas [42]
- to develop gender awareness and skills among different stakeholders (policymakers, institutions, organisations, etc.) [42]
- to promote greater gender equality within the staffing and organisational culture of development organisations (e.g. the impact of affirmative action policies) [42]

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Quantitative Indicators

In its “[Toolkit for Mainstreaming Gender in Water Operations](#)”, the World Bank has published a list of gender-sensitive indicators that can be used for M&E. The table below gives a selection of these indicators [42].

Table 5. Gender-sensitive indicators for M&E (selected)

Access to WASH facilities	Numbers and percentages of rural (urban) women and men within 1.5 km (1 km) of an improved water source
	Numbers and percentages of men and women with access to improved sanitation near houses
	Number and percentage of schools with separate WASH facilities for girls and boys (a ratio of girls per toilet and boys per toilet)
	Ratios of toilets and hand-washing facilities for women and men per household
	Numbers and percentages of men and women with access to hand-washing facilities
	Improvement of security and equity of water supply for poor farmers Farmers’ access to water for productive purposes
Use of services	Numbers of men and women using (improved) WASH facilities and resources
	Numbers of men and women washing hands with soap at the right times (after using toilet, before eating)
	Percentages of men and women trained in scheme management
Time saving	Numbers of hours spent (in a day or in a week) by women and men in getting access to improved water supply and sanitation services
	Distances travelled by women and men to collect drinking water
	Time spent caring for children and adults with waterborne diseases
Affordability	Percentages of income spent by women and men getting access to water and sanitation services in different project areas
	Percentage of households investing in sanitary facilities
	Shared costs between men and women for safe domestic water
Participation	Numbers of men and women involved in hygiene promotion activities
	Ratio of men trained in health education to women trained in health education
	Numbers of men and women trained in the construction, operating, and management of new infrastructure or a water supply system built as part of the project
	Percentage of increase in demand for (paid) labour by women as a result of the project

Decision-making and governance	Numbers/percentages of representation of women, including in leadership roles, on community-based water development boards or water user associations
	Numbers/percentages of men and women represented in technical and/or management positions in water organisations at the policy and/or the operational level
	Percentage of women in water-related employment, such as in a utility company or a selected ministry
Income	Percentage increases in income for men and women from productive uses of water
	Improvement in women's life skills (such as communication and negotiation), based on demographic and health indicators (similarly, qualitative assessment that is difficult to verify)
Health	Mortality rate for children below age five
	Reductions in male and female deaths from waterborne diseases by age

In addition to assessing M&E indicators, the project team should also evaluate a series of questions. The questions listed below can be seen as evaluating the gender impacts of project outcomes [42].

Table 6. Key questions for M&E (selected)

Are you implementing the gender-responsive WASH intervention as planned? [46]
Are men and women benefitting equally from the project outcomes? [42]
Did the project increase community capacity to work to achieve common goals and reconcile differences of interest between men and women? [42]
Did the project increase the transparency, equity, and responsiveness of institutional and organisational structures that are relevant to ensuring men and women have equal access to water supply and resource management? [42]
Is the monitoring system (data collection, methods, and approaches) providing the necessary information to measure progress in advancing gender equality and/or empowering women and girls? [46]
Have you meaningfully engaged the participation of national and sub-national gender institutions in monitoring efforts? Are the monitoring findings transparent? [46]
Based on monitoring data, which measures need to be modified or corrected to achieve the intended outcomes? [46]
Were women and girls in the community involved in the identification of questions for the evaluation, collection of data, and interpretation of findings? [46]
Has the project changed gender relations or enhanced gender equality? If so, how? [42]
Is the sustainable improvement of gender relations after project completion guaranteed? [42]
Did the project increase the amount of time women have available for productive or income-earning activities? For example, did the installation of piped water to the community reduce the amount of time women spend collecting water for household use? [42]

4.5 Focus: Menstrual Health Management (MHM)

Figure 5. Key MHM elements in communities, schools, work places, and emergencies [53]



Adequate sanitary protection materials are essential to the gender-responsive implementation of WASH projects. In “[Menstrual Hygiene Matters](#)”, WaterAid has created a comprehensive collection of information and a practical tool to help project designers and implementers integrate MHM into their projects.

4.5.1 Adequate MHM infrastructure

School and public toilets often fail to offer adequate privacy, cleanliness, and washing facilities to meet menstrual health management standards. The following list is intended to provide an overview of the requirements demanded of toilets that provide adequate MHM.

Features of menstrual health-friendly infrastructure in schools and public/communal WASH facilities:

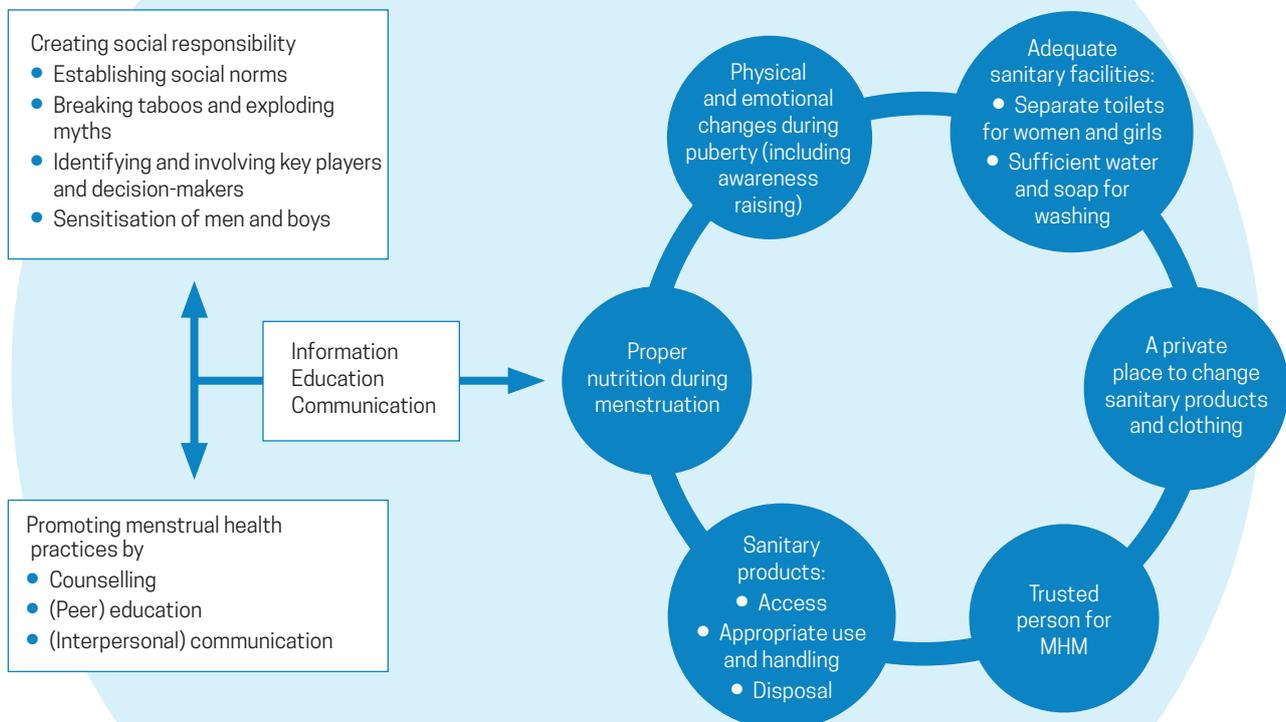
- Toilets segregated by sex
- Cubicles with lockable doors with bolts and adequate screening

- Adequate water supply and handwashing facilities
- A safe place
- Adequate (hand) washing facilities with sufficient water supply and soap
- Easy-to-clean toilets; regular cleaning and maintenance
- Accessibility for people with reduced mobility
- Washable containers with lids for collecting sanitary products and packaging in each cubicle
- Small mirrors in each cubicle so that women and girls can check their clothing for stains or leaks before leaving the toilet
- Organisation of the collection and disposal of sanitary products (e.g. incinerator)
- Financing plans and mechanisms to sustain the operation and maintenance of WASH facilities

4.5.2 MHM outputs for schools and communities

However, the layout and design of WASH facilities is not the only important factor. Accompanying training and sex education interventions are also required. The figure below gives an overview of the essential outputs in the field of menstrual health management.

Figure 6. Overview of MHM outputs for young girls [53]



Lists of specific menstrual health outputs for schools and at the community level are provided in Tables 7 and 8 below.

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Table 7. Menstrual health outputs for schools [53]

Output	Description
Engaging women, girls, men, and boys in MHM: <ul style="list-style-type: none"> Promoting tried-and-tested processes Challenging myths and negative practices 	Sharing information on good menstrual health practices with women and girls through various channels (e.g. women’s groups, house-to-house visits by community health workers, mother-and-child health days, youth groups). Sharing information with men and boys so they can support female family members, friends, and colleagues.
Integrating menstrual health into the curriculum	
Ensuring availability of affordable sanitary protection materials	Providing sanitary protection materials or training on how to make your own.
Improving or constructing menstrual health-friendly toilets and changing facilities	Ensuring that toilets are in a safe location and clean, with a water supply, soap, and a covered disposal bin for used sanitary products.
Sanitary protection materials management	Establishing a safe collection and disposal management system for sanitary protection materials.

Table 8. Menstrual health outputs at the community level [53]

Output	Description
Engaging women, girls, men, and boys in MHM: <ul style="list-style-type: none"> Promoting tried-and-tested processes Challenging myths and negative practices 	Sharing information on good menstrual health practices with women and girls through various channels (e.g. women’s groups, house-to-house visits by community health workers, mother-and-child health days, youth groups). Sharing information with men and boys so they can support female family members, friends, and colleagues.
Supporting sanitary pad production	Supporting training on the production of sanitary pads by households, women’s groups, or small social enterprises.
Distributing low-cost sanitary pad products	Distributing low-cost sanitary products for sale as a source of income for female community health staff.
Improving community water, sanitation, and hygiene	Improving communal water supply, household sanitation facilities, and hygiene facilities and practices to give women and girls easy access to menstrual management.
Improving public water, sanitation facilities, and hygiene	Improving public water, sanitation, and hygiene facilities in community centres, market places, religious institutions, schools, and health centres to meet menstrual health requirements.

Details of the individual outputs are provided in WaterAid’s publication “<https://washmatters.wateraid.org/publications/menstrual-hygiene-matters>” [53].]

4.5.3 Budget items for menstrual health

It is important to consider menstrual health when establishing project budgets. Possible budget items include [53]:

Preparing staff and partners

- Staffing for the menstrual health elements of the programme
- Training for staff and partners

Infrastructure and training

- Awareness-raising events and sessions for women, girls, teachers, and community or religious leaders
- Printing and distribution of menstrual health books for girls
- Funds for improving the water, sanitation, and hygiene situation in schools, public places, and/or workplaces
- Establishing sanitary pad production workshops
- Set-up and training costs for women's or girls' groups making local sanitary products or soap
- Advocacy activities for awareness-raising

Assessments, monitoring, and evaluation

- Logistics and staff allowances for assessments and monitoring, and for the evaluation of menstrual health programmes
- Fees for female researchers, translators, etc.

4.6 Focus: Public toilets

The list below gives an overview of requirements for public toilets.

1. Safe and private [43] [53]

- Separate entrance for female toilet section including clear signs, directions, and symbols
- Robust, lockable cubicles
- Safe location with good lighting and sufficient privacy
- Trained male and female attendants

2. Adequate menstrual health provision [43] [53]

- Access to water, soap, and menstrual products (incl. disposal options)
- Hooks, shelves, and mirrors
- Private means for washing

3. Accessible for all users [43]

- Reasonable distance from homes
- Accessible paths and cubicles

4. Availability [43]

- Affordability (e.g. tariffs)
- Open when needed
- Sufficient number of cubicles

5. Maintenance and management [43] [53]

- Cleanliness and hygiene
- Waste disposal management
- Waste water disposal

6. Take into account the requirements of parents and caregivers [43]

- Baby changing and breastfeeding stations
- Family friendly cubicle
- Sufficient space to cater to users dependent on care

The checklist below gives an overview of aspects to be considered in designing and constructing female-friendly public toilets:

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Table 9. Checklist for the design of female-friendly toilets [43]

Construction/upgrading	
Are gender equality issues addressed in calls for tender and contracts?	✓
Is budget allocated to include female-friendly considerations (in construction)?	✓
Are commitments to and records of community engagement and gender sensitivity considered in contractor selection?	✓
Do toilet block layouts take into consideration that equal capacity female sections will require more space than males ones?	✓
Are there plans to actively monitor the female-friendliness of facilities being built to check whether the needs of women and men are being taken into account?	✓
Operation and maintenance	
Are there designated caretakers, in particular female caretakers?	✓
Are regular training sessions organised to build the capacity of staff to work with people of all genders and abilities?	✓
Are there clear operating standards that consider female-friendly features?	✓
Is there menstrual waste disposal provision that is safe and culturally appropriate?	✓
Are women equally involved and remunerated in the operation and management of toilets?	✓
Are there arrangements (budget, plan, etc.) in place for the cleaning and upkeep of toilets?	✓
Monitoring	
Are key female-friendly features included in monitoring mechanisms?	✓
Is there a safe and confidential complaints system to enable feedback on community and public toilets?	✓
Do these ensure that women's and girls' perspectives will be taken into account?	✓
In addition to canvassing users' views, will monitoring mechanisms also include people potentially left behind (for accessibility, affordability, or other reasons)?	✓

4.7 Focus: community-based water committees

Community-based water committees administer drinking water supply and waste water management around the world. Here, too, it is important that the needs of women and men are considered equally. As a general rule, community-based water committees are democratically elected and responsible for:

- the operation and maintenance of village water supply systems,
- ensuring the quality of drinking water,
- operating the billing system,
- setting and collecting the water tariff,
- ensuring their own independent supply and
- supporting village residents in issues relating to waste water disposal and treatment.

The following steps can improve women's participation in water committees [42]:

- ✓ Ensuring that project teams have women in suitable positions who are able to recruit female members for the committees and communicate with them
- ✓ Setting a minimum quota for female members to increase their participation in decision-making processes
- ✓ Where appropriate, setting lower membership fees for women since their financial means are often lower than those of men
- ✓ Regular discussions of the concerns of women and men, e.g. at meetings

Case study: Kyrgyzstan – a water committee for safe drinking water

Initial situation Following the collapse of the Soviet Union, water systems in many rural areas of Kyrgyzstan were neglected. This was the case in An-Oston, a village of 1,640 residents working primarily in agriculture. The 300 households in the village shared 12 public water collection points and had to carry the water home from an average of 500 metres away. This work was carried out very largely by women and children. The water points supplied water for only two hours a day, providing on average 10 litres of water per person per day. This amount is insufficient for basic hygiene needs. In addition, there was no monitoring of water quality and the analyses carried out by WECF identified various bacterial contaminants. An active women's group wanted to change this situation and turned to the Kyrgyz NGO KAWS (Kyrgyz Alliance for Water and Sanitation), which suggested setting up a water committee. Together with WECF, KAWS was able to identify a funder willing to finance improvements in the water supply network.

The water committee The water committee in An-Oston is a democratically run organisation that controls and manages the water network and its use. It consists of a members' meeting that brings together all the water users, i.e. all the residents, in the village. This meeting elects board members from representatives of all the major stakeholders in the village and appoints 8 district managers. In An-Oston, they are all women. The district managers collect the water tariffs decided by the members' meeting from the householders and act as points of contact in the event of technical or other problems. A female bookkeeper and a technician are also elected. They are the only players to be paid for their work.

Sustainability Participation was key to the project approach. The demand for an improved water system came from women and was largely driven by women. The democratic and transparent character of the committee ensured that people were prepared to pay the water tariffs, which are somewhat higher than government tariffs in other locations. The costs of operating the water supply main were set out in detail at the general meeting and used as the basis for calculating a water tariff per cubic metre that was then approved and adopted by the participants. This included the cost of regular quality control measures.

Gender issues and conclusion KAWS and WECF organised the creation of a water committee, constantly strengthening the roles of women. Although no women's quotas were set, the committee board consisted mainly of women. Amongst other reasons, this is because the work of collecting and preparing water generally falls to women in Kyrgyzstan. Women in particular benefitted from the improved access to water, which has greatly reduced the burden of daily unpaid work. Many have bought a semi-automatic washing machine and young families who had previously left the village have now returned thanks to the improved living conditions. Overall, there has been a significant increase in quality of life – for men as well as women.

4.8 Key take-aways

Investment in gender-responsive WASH helps to reinforce social justice, eliminate poverty, and promote environmental sustainability.

As part of the process, women and girls need to be able to manage and use WASH resources on equal terms with men and boys. Women and girls need to be recognised as players in the transformations taking place within their community; their knowledge and efforts must be valued and they must be included in all areas of the project cycle. This is the only way to achieve sustainable gender equality in the WASH sector.

5 CONCLUSION



Inclusive, socially acceptable and gender-responsive WASH, and energy supply models help create resilient communities, resilient households, and resilient women and men. Knowledge, experience, tools, and intercultural exchange enable the players involved to implement development cooperation projects in the energy and water supply sectors that yield multiple benefits, including better and more affordable energy provision, improved living conditions, new opportunities in rural areas (through new jobs, for example), gender-responsive projects and policy that contribute to establishing a better legal framework for sustainable technologies.

This handbook was developed alongside training courses as an aid to designing and implementing projects in a gender-responsive manner from start to finish and training multipliers and others working in development cooperation in the targeted use of tools such as gender analyses, gender-responsive indicators, communication, and budgeting.

A key factor in improving equity, fighting poverty, and increasing effectiveness, the integration of gender perspectives into energy and WASH projects should be one of the guiding principles of both governmental and non-governmental development cooperation programmes.

Equality: Gender equality is a human right and therefore a basic prerequisite for social justice and democracy. The unequal power relationships that exist between women and men are responsible for discrimination against women, and must be taken into account in all energy and WASH projects delivered within the framework of development cooperation.

Fighting poverty: Gender-responsive WASH and energy services and projects facilitate the use of fair business models and result in sustainable economic growth. In association with the necessary training and social provision, women's access to economic rights and resources can make a valuable contribution to the fight against poverty. It is crucial in all development cooperation projects.

Effectiveness: Gender-specific analyses, strategies, and other tools make visible the different interests and needs of women and men and their respective positions in society. They can be used to tailor programmes and projects to the needs of men and women in a targeted manner, and so make development cooperation more effective and sustainable.

The consistent and coherent application of gender tools in development cooperation involving WASH and energy projects empowers all those involved and enables communities and societies to create better living conditions through their own efforts. It also permits the players on the ground in the project countries to play their part in meeting the targets set out in international agreements.

Excursus: sustainability in development cooperation projects

Projects delivered in the context of international cooperation, particularly those organised between countries of the Global North and the Global South, present a particular challenge. Cultural differences often make it difficult to simply transfer project approaches and concepts from one country to another. If a project is to be delivered in a genuinely sustainable manner and to achieve sustainable success beyond the end of the project period, it needs to be embedded in the local context in close cooperation with the various players and target groups on the ground. To tailor the project as closely as possible to the needs of its target groups, this cooperation should ideally start at the design phase. It is highly advisable, for example, for any training element to be fully integrated in the work carried out with project partners and target groups as recommended by education for sustainable development (ESD) guidelines.

ESD seeks to enable everyone to understand the direct relationship between their own actions and the effects they have on the world and the future, and so to equip them for responsible and sustainable decision-making. This fundamental understanding, which necessarily starts with the individual, is the first and most important step towards societal transformation. If we are to change the world, we must first change our own behavioural patterns. Rather than simply persuade others into a certain course of action, ESD relies on encouraging them to question their own behaviours and so reinforces the awareness that change is possible. Knowledge sharing and the involvement of all project players is equally important in facilitating genuine participation, i.e. in finding participatory approaches to decision-making, in the identification of problems, and in conflict resolution. In development cooperation, in particular, everyone involved in a project must be responsible for its sustainable success. This only works if all the players have ownership of favourable outcomes rather than simply perceiving them as something imposed from the 'outside'.

For this reason, it is essential for all the players in a project to be involved from the outset, for sustainable success depends to a large extent on the involvement of end users and target groups. If a particular issue fails to 'hit home', it will be impossible to deliver the project sustainably. It is vital to build in specific steps that make contact with target groups on the ground, to work intensively with them, to address their specific needs, and embed the project in their world. This in turn means collecting in advance the most accurate information possible about their needs – not just what they need but the status that their culture assigns to the issues addressed by the project. Is there already an awareness of the issue or is a completely new and unfamiliar? What experiences have there been in the past and what information do they currently have? This approach can be applied to any issue, be it gender, energy supply, water, or any other question.

Taking the specific example of an energy efficiency project, the key to its success may lie not only in raising awareness among the target group/end users of the general benefits of energy savings, but more specifically in creating personal links to the issue that enable them to identify and understand the personal benefits to them: on one hand providing factual information, while also answering the question "How will I benefit?". Similarly, it is important to create a 'greater' link that situates individual actions and decisions in the local and global context. In the case of an energy efficiency project, for example, this might be asking: "What will happen if we keep on cutting down trees in our local woods to heat our homes? Will there still be wood left for my children and my grandchildren? Going a little further, it is then possible to ask: "What will the impact of my behaviour be in the long term and on a global scale? How will my decisions alter the futures of my children and grandchildren?"

Debating these questions creates an initial awareness of the issue. In our example, it produces a general understanding that reducing the consumption of wood would be good for everyone. At the next stage, things become more tangible: "How can we solve this problem?"

What are the options?" Only then is it possible to involve all the players in discussing possible approaches and to devise the best solution.

The strength of this method lies in the fact that rather than simply offering up ready-made solutions, it creates a widespread awareness of the issue and carries those directly affected – the project target group – along with it.

In intercultural cooperation, in particular, it is very helpful for the sustainability of a project to understand all the players and their needs, to achieve a real meeting of minds. Other people's priorities and ways of thinking are frequently very different than we imagine. Both individuals and communities are often sceptical about change and there may be ingrained behaviours and traditions that cannot simply be swept away.

In such cases, the methods advocated by education for sustainable development can be used to reflect these behaviours and to set people thinking. If everyone has ownership of a project and its outcomes, the project will be a sustainable success.



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WECF e.V.

St. Jakobs-Platz 10

80331 München

Tel.: +49-89-23239380

www.wecf.org/de