

Women, Water, Energy and the Millennium Development Goals: Lessons Learned and Implications for Policy

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Water and energy are essential resources for human survival and well-being. Improved access to these critical resources holds some of the key to reducing poverty and achieving the Millennium Development Goals (MDGs).

Worldwide, two billion people continue to rely on traditional biomass fuels for cooking and heating, while some 1.1 billion people lack access to safe drinking water. Hundreds of millions – mainly women and children – spend hours daily gathering firewood and water, often from considerable distances, for household and other needs. Women throughout the world continue to have fewer options and opportunities than men, and in many countries women face overt inequalities, marginalisation, and discrimination. Of the 1.3 billion who live in poverty, 70% are women. Women perform two-thirds of the world's work but earn one-tenth of the world's income. Their exclusion from decision-making in many countries has led to the failure of many poverty alleviation programmes.

Throughout the Himalayan region, women face the burden of fetching heavy loads of water and

fuelwood and spend hours in drudgery to meet the water and energy needs of their households and farms. They spend extended periods with their children in smoky kitchens – a health hazard to both mother and child. Often, young children, especially girls, are unable to attend school because they are needed to help with water and energy chores at home. Without reducing the time women spend daily on collecting and fetching these resources, and the drudgery associated with these activities, women simply do not have time to participate in any new livelihood opportunities. Liberating poor women from this vicious cycle of time poverty¹ can be a powerful entry point for reducing poverty and achieving the MDGs.

Any new interventions for women should aim to reduce the hours and drudgery of work, and the risks to life and health. It should enhance equity in the



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Women and children collecting firewood from jhum land in the West Garo Hills, Meghalaya, India

¹ Time poverty occurs when the rate of return on human assets is so low that the labour time (metabolic energy) has to be largely allocated to these survival activities.

sharing of work and benefits and should widen women's options for more productive work through time and energy savings. Women need energy- and water-related technologies to meet water and energy needs and to escape from the deep-rooted time poverty they face. In addition to these practical needs, these technologies also help to improve the status of women's livelihoods (*productive needs*) especially to generate more income as well as for women's empowerment (*strategic needs*).

This fundamental relationship between women, water, and energy has not been adequately recognised in past development efforts. This is a major reason why women's contributions to mainstream decision-making processes in the Himalayan region has not been fuller. Although integrated water and energy initiatives can be a powerful entry point for empowering women and reducing poverty, this issue has not received the attention it deserves. The few examples that have stressed the central role of women in water and energy management remain fragmented, and learning from them has yet to be coherently assembled.

The Millennium Declaration adopted by 189 states at the United Nations Millennium Summit in 2000 and the eight key goals (MDGs) to be achieved by 2015 have become the international roadmap for working on poverty eradication, health, education, and environmental sustainability. Although there is no specific target on energy in the MDGs, and only Goals 7 and 3, respectively, focus on water and gender/women (gender equality and empowerment of women), none of the MDGs, it has been widely recognised, can be fully achieved without ensuring adequate and equitable access to water and energy.

Since women are the primary collectors, users, and managers of both these resources at the household level, focusing on their roles and needs in relation to these two basic needs can make a significant difference in meeting these MDGs.

ICIMOD and UNEP launched the project, 'Capacity Building of Women for Energy and Water Management in the Rural Areas of the Himalayas' in three countries – Bhutan, India, and Nepal, with financial support from SIDA in recognition of the gap. The project sought to empower women to meet their water and energy needs in a way that frees them from excessive drudgery and long hours spent collecting water and fuel, and allows them to increase their income and improve their status in society. In other words, addressing the water and energy needs of women served as an entry point for addressing their productive and strategic needs. Women were placed at the forefront of the design and implementation of energy- and water-related technological interventions based on their prioritised needs by enhancing their energy and water management capacities through various forms of training.

The impacts and lessons that have emerged from the project are discussed below, and the ways in which interventions have contributed to meeting a number of MDG targets at the local level are detailed. Some implications for designing gender-sensitive water and energy policies are also highlighted.

Impacts and lessons learned

Existing water and energy policies and programmes in the countries of the study remain largely gender neutral, failing to address the special circumstances and needs of women. Nor are there specific policies and programmes for combining the needs and role of women in water and energy management in an integrated manner at the household and community levels.

Simple and cost-effective water and energy technologies that women can control and manage themselves and which bring positive change to their lives, the lives of their families, and their communities, even in a short period of time, continue to be overlooked in development programmes. While saving time and reducing drudgery are valuable impacts in their own right, the time saved from adopting these technologies can be harnessed to generate income. This multiple impact makes them attractive and appealing for women.



Centre for Rural Technology (CRT), Nepal

Women constructing an improved cooking stove in Nepal

Through improved access to water and energy technologies that reduce drudgery, save time, and improve health, women are able to meet their practical needs. Productive needs are met by technologies that help women to better utilise the time saved from accessing water and energy for income generating activities. Strategic needs are fulfilled by building women's capacity to organise themselves in ways that empower them to choose technologies that suit their needs and improve their standing in society.

Technology is not gender neutral, and as such, technological options must remain open and be driven by development needs. A major conclusion of the project is that integrating women in activities that address the problems associated with water and energy is not merely a question of technologies that best serve their needs, but more important, how to enable and empower women to choose from among options those that meet their needs, improve their livelihoods, and their overall status in society. The formation of women-only groups has helped this process, with women taking charge of the technologies.

Women are emerging as energy entrepreneurs and leaders, running an LPG depot, technology demonstration centres, and producing and selling solar dryers and improved cooking stoves.

The pilot projects in Nepal have been selected internationally as examples of good practice by the Wuppertal Institute for Climate, Environment and Energy². Mainstreaming examples of good practice is already taking place. For instance, the Dhankuta District Development Committee has replicated the project in Vedetar Village Development Committee. The Ministry of Environment, Science and Technology of His Majesty's Government of Nepal is incorporating the project concept into its future programmes on gender mainstreaming in the water and energy sector. The project has gathered valuable experiences and lessons, some of which are briefly highlighted below.

- **The right entry point is crucial to ensuring women's participation and empowerment.** While participation holds the key to the successful delivery of water and energy services in rural areas, reducing women's drudgery and workload and focusing in particular on integrated water and energy initiatives should be an entry point for enabling them to participate in livelihood opportunities. The issues common to

water and energy are often examined separately, but clearly integrated water and energy planning can address drudgery while widening women's options to meet their productive and strategic needs in a sustainable way.

- **Women's empowerment is essential for gender mainstreaming.** Gender strategies may focus on women or men separately, or on women and men together, depending on the context and approach. Considering the subordinate position of women in male dominated societies, women-specific initiatives create an empowering space for women and provide the platform for ideas and strategies that can later be transformed into mainstream interventions. Patriarchal attitudes and initial resistance from men to women taking on new roles in water and energy activities can shift once the benefits to the community, households, and to women themselves are clearly explained and demonstrated through gender sensitisation.
- **Gender analysis can lead to success in implementing projects.** Gender analysis is essential if water- and energy-related technological interventions are to receive the priority they deserve. Such interventions must address women's practical, productive, and strategic needs and their multiple roles (reproductive, productive, and their participation in the community). They must also assess how women and men benefit differently from these technologies in order to make visible the varied/invisible roles women, men, girls, and boys play in the family and in the community for the purpose of designing proper policy interventions. Gender analysis tools must be internalised if gender issues in water and energy planning are to be mainstreamed. Unfortunately, the gender tools developed 15 years ago for other sectors are not appropriate nor sufficient for internalising gender awareness in water and energy planning.
- **Making training accessible and suitable for women is important for their empowerment.** Training should be more accessible to rural women, given the time and mobility constraints they face, and their high levels of illiteracy. Training courses can be made shorter with provisions for follow-up training, giving training locally, and setting practical criteria for selecting trainees. The training of prospective women trainers (e.g., the 'training of trainers' approach) is an effective way of training other women both

² 'Water and Energy-precious Resources'. In, *VISIONS of Sustainability*, Issue II, 2004, available online at <www.wisions.net> .

within and beyond project sites. Exposure visits are an effective tool for breaking down barriers to promoting women's awareness and adoption of technologies. The concept of a technology demonstration village can go a long way in facilitating the transfer of technology and the dissemination of information in inaccessible mountain regions.

- **A more permanent solution to the water scarcity problem is possible.** The Women and Energy Project has come up with some promising examples. Some of them include harvesting rainwater on mountain slopes with micro reservoirs in Uttaranchal, planting trees, and social fencing, as a solution to recharging traditional water springs.
- **Supporting the organisational capacity building of women is fundamental to their empowerment.** Meeting practical water and energy needs may free up women's time and allow them to engage in income generating activities, but this alone does little to change their subordinate position unless an enabling environment is created from the top, and women are mobilised at the bottom to confront complex existing power relations. More capacity building efforts using a holistic rather than project-based approach are needed to bring about the desired impact on women's strategic needs and to integrate women in the decision-making at different levels.

Linking project impacts to the MDGs

Policies focusing on women's needs and roles in water and energy can make a difference in meeting development challenges, including the local application of a number of MDG targets, because of their 'multiplier effect' on the lives of women, their families, and the local communities. This is illustrated below.

The impact of water and energy policies must be seen as cross-cutting sectors, warranting links to other policies within the economy.

Table 1 (next page) illustrates how the impacts of the project at the micro level can be linked to the MDG targets. There are both direct and indirect links between women-centric energy and water interventions and MDG-based indicators of development. These interventions can enhance access to income generating opportunities and education by freeing up the time that women and children (especially girls) would otherwise spend on basic survival activities (such as gathering firewood, fetching water, cooking, among others). Other benefits include improved health through the reduction of indoor and outdoor air pollution and associated respiratory infections, less incidence of water-borne diseases, as well as widening women's options for improving their lives and that of their families.

More specifically, Goal 1 of the MDGs – halving poverty by 2015 – will be difficult to achieve without adequate and reliable water and energy services, which are essential to reducing time poverty and drudgery, to increasing productive income, and creating employment opportunities. Goal 2, ensuring universal primary education, will not be possible without first tackling time poverty associated with survival activities, which is a root cause of child labour and one of the ways that intergenerational poverty is perpetuated. Goal 3, gender equality and the empowerment of women, will not be attained without integrating the roles and needs of women into public decision making, implementation, and management – especially in the water and energy sector as an entry point for gender mainstreaming. Improving health and reducing child and maternal mortality rates (Goals 4 and 5) cannot be achieved without dealing with indoor air pollution and water-borne diseases resulting from traditional, smoky cooking stoves and unsafe drinking water. Environmental sustainability (Goal 7) cannot happen without sustainable access to clean energy and water, and so on.



Elizabeth Khaka

Woman standing beside a newly constructed water harvesting tank with funding from UNEP/ICIMOD

Table 1: Linking project impacts at the micro level to the MDGs and targets

Goal	Target	Linking Project Impacts to the MDGs
Goal 1: Eradicate extreme poverty and hunger	Target 1: Reduce by half the number of people living on less than a dollar a day Target 2: Reduce by half the number of people who suffer from hunger	<ul style="list-style-type: none"> • After adoption of water and energy related technologies women are able to save time spent on collecting water and fuelwood. The time saved is utilised for income generating activities to increase income and improve family well-being. • Use of new technologies improves farm productivity, diversifies rural income, and improves household income and nutrition of family members.
Goal 2: Achieve universal primary education	Target 3: Ensure that all boys and girls complete a full course of primary schooling	<ul style="list-style-type: none"> • Access to efficient fuels and technologies frees up children's time, especially girls who are unable to attend school since they are needed to help with fetching wood, collecting water, and other domestic chores. • Income generated through the use of improved water and energy technologies is used for children's education and well-being • Solar lanterns permit children to study at night in less smoky environments.
Goal 3: Promote gender equality and empower women	Target 4: Eliminate gender disparity in education	<ul style="list-style-type: none"> • A decentralised water and energy system reduces the time needed and the burden of fetching water and fuelwood, thereby enabling women and girls to use the time saved on education (adult literacy and schooling) and other income earning activities. • Solar lanterns permit women to use time productively even at night. • Women's individual and collective organisational capacity enhance their self esteem and self confidence, allowing them to address their strategic needs (social empowerment), which has in turn strengthened women's decision-making role at the household and community levels. • Being able to mobilise financial resources enables women to participate in community development activities.
Goal 4: Reduce child mortality	Target 5: Reduce by two-thirds the mortality rate among children under five	<ul style="list-style-type: none"> • Reduction of indoor air pollution and water-borne diseases through the use of smokeless cooking stoves and clean water reduces exposure to diseases and improves child health. • Women have more time for child care as they spend less time on water and energy activities. • Education helps to increase awareness of health, hygiene, and sanitation issues.
Goal 5: Improve maternal health	Target 6: Reduce by three-quarters the maternal mortality ratio	<ul style="list-style-type: none"> • Reduction of excessive workload and the drudgery associated with carrying heavy loads of fuelwood and water has positive implications for women's health. • Minimising arduous and repetitive food processing tasks and cooking in a less smoky environments improves women's health and well-being. • Empowerment and increased incomes enhance awareness about and access to health facilities
Goal 6: Combat HIV /AIDS, malaria and other diseases	Target 7: Halt HIV/AIDS, malaria and other diseases by 2015 and begin to reverse the spread of HIV/AIDS	<ul style="list-style-type: none"> • Awareness raising and social mobilisation as integral components of the participatory action research project spread important public health information to combat diseases
Goal 7: Ensure environmental sustainability	Target 9: Reverse loss of environmental resources Target 10: Reduce by half the number of people without sustainable access to safe drinking water	<ul style="list-style-type: none"> • Rainwater harvesting through micro reservoirs recharges traditional water springs. • Plantation ensures slope stability and retards soil erosion. • Adoption of social fencing by women to control livestock grazing allows healthy growth of trees and ground cover and promotes carbon sequestration and other environmental services. • Availability of cleaner fuels and energy-efficient technologies reduces demand for fuelwood, increases availability of dung and agricultural wastes for fertiliser, and reduces air pollution and greenhouse gas emissions.

Despite the many impacts of women-centric water and energy interventions on a number of MDG targets, policy makers and planners in the region continue to treat energy and water related interventions as gender neutral. Households are often taken as homogeneous units without any recognition that women and men have very different roles and areas of decision making within households. The importance of bringing a gender perspective to energy and water policy analyses and design is still not widely understood and consequently is not fully integrated into mainstream energy and water development activities in the region. Five years into the new millennium, the United Nations reviewed progress on the MDG Agenda at a Special Summit Session of the General Assembly in September 2005. It is yet to become clear how this summit will re-energise the work to place gender-sensitive water and energy interventions at the centre of national poverty alleviation strategies, including the MDGs.

Conclusions and policy implications

For water and energy to become an instrument for poverty alleviation and sustainable development, a drastic change in the existing approach is required. A fundamental readjustment of public policies is needed which will focus on integrating women's roles and needs in decision-making in decentralised, renewable, clean, and efficient energy and water systems. This requires sustained efforts in awareness raising and capacity building. Work must be directed towards policy change, technology innovation, and investments – all supported by a sound analysis of the policy options available. Both international political commitments and partnerships among governments, the private sector, non-government organisations, and community groups are required. There is an urgent need to develop a holistic, rather than a project-based approach to the provision of water and energy, one that is not only technology-oriented but is about understanding the roles that water and energy play in people's lives, especially in the lives of women who are the collectors, users, and managers of these resources.

A further issue is that the use of metabolic energy for tasks related to daily survival is rarely measured and is not reflected in national statistics, making it difficult to understand the whole issue. A full picture of the energy needs of the region is crucial if policy interventions are to be useful.

In addition, policy must be understood as a process, which is as important as outcome (such as state policy legislation, laws, plan). The participatory process of anchoring good practice in national programmes through a bottom-up approach is powerful, a demand-driven way of ensuring that the voice and choice of the people are ultimately reflected in the policy programme and action continuum.

Gender mainstreaming must be carried out in a manner that is empowering for women. Mainstreaming may not work because women may not be in a position to participate on an equal basis with men because of their heavy workload at home, poor access to finances, low literacy, entrenched gender taboos and so on. Women-only projects focusing on empowering them can be a sure way to enhance their capabilities, create opportunities for them, and ensure their participation on an equal basis with men. To be empowered, women must not only have equal capabilities and access to resources and opportunities, they must also have the institutions to exercise those rights, capabilities, and opportunities to make strategic choices and decisions. Since gender inequality is deeply rooted in entrenched beliefs, sociocultural norms, and market forces, it is both a technical and a political process which requires substantial shifts in organisational cultures and mindsets. The goals and structures of projects and positive discrimination in resource allocation must also be addressed.

- Place women's needs and concerns in energy and water interventions at the centre of the national poverty reduction strategy.
- Promote technologies to address women's practical, productive, and strategic needs.
- Offer a bundle of services that are needs-based and which enable women to access improved energy and water to enhance their entrepreneurial and technical skills and self-confidence.
- Establish gender-disaggregated data at all levels using gender analyses tools to understand gender-based needs, constraints to participation, ability to participate, and different benefits of participation.
- Enable institutional representation of women in decision making.
- Support capacity building and partnerships of women and men involved in energy and water management.
- Promote partnerships among government and non-government organisations and in the private sector.
- Anchor demonstrated good practices in the national programme through a bottom-up approach, starting at the local level.