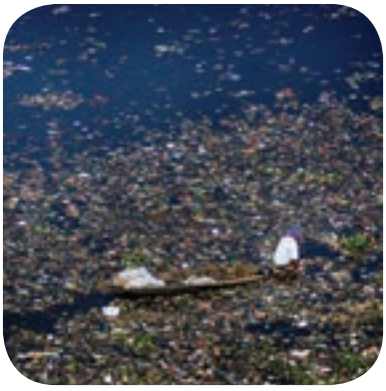
Why Gender Matters in IWRM:
A tutorial for water managers



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Foreword

Seven years ago, Cap-Net UNDP and GWA posed the question "Why should gender matter to water managers?" We attempted to provide some initial answers to this question by producing a self-learning tutorial aimed at water professionals that would demonstrate the benefits of including gender considerations in water management planning and practices. It intended to show how addressing gender would improve efficiency of water use and environmental sustainability. We were, and still are convinced that a gender approach brings significant social benefits and improves equity in use of water resources.

After seven years, the 'Tutorial for Gender Mainstreaming in Water Management' is due an update. We never travelled without at least 50 copies of the interactive CD version of the tutorial in our suitcases, and to date we have distributed about 7000 hard copies worldwide. The number of downloads of the full document is even higher.

This new edition does not differ in its gender approach, but is updated with new developments, new insights and recently developed processes. Like the previous version, the chapters deal with different gender and water themes, explaining why smart water managers should mainstream gender in their work. But in this version, the 'how' question is addressed more thoroughly, as we have included various tools, case studies, and references to useful websites and literature on promising practices, as well as examples of evidence of impact.

We have included a quick guide at the beginning of the tutorial, for ease of reference for users. We hope that technical water managers in particular find this tutorial helpful, but others will benefit from its contents as well.

A group of high-level gender and water experts were involved in writing and screening the text and selecting photographs. GWA and Cap-Net guarantee its suitability for technical water managers, who aim for their work to benefit people of different backgrounds: poor and better off; rural and urban; majorities and minorities; differently abled and vulnerable women, children and men.

Bekithemba Gumbo, Director

Joke Muylwijk, Executive Director

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Acronyms

Cap-Net	Capacity Development in Sustainable Water Management Network
FAO	The Food and Agriculture Organization of the United Nations
GWA	Gender and Water Alliance
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation for Nature
IWRM	Integrated Water Resource Management
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
UNICEF	United Nations Children's Fund
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UN-Habitat	United Nations Human Settlements Programme
WATSAN	Water and Sanitation
WB	The World Bank
WHO	World Health Organization
WSP	Water and Sanitation Programme

Introduction

This tutorial is a self-learning tool for professionals and managers in the water sector. It is designed to help them account for the different needs of the women and men that will be affected by their work.

The tutorial explains **why** is it important to consider gender mainstreaming in the water sector. It details the various ways in which men and women are affected differently by water management decisions. Despite the challenges, there are numerous benefits in considering gender from the design stage through to implementation of water policies and practices. The benefits can be seen in improved economic sustainability, economic efficiency and social equity and better water governance. The tools needed to achieve these benefits are discussed in the context of different sectors.

There are five chapters in the tutorial. The first chapter presents basic concepts related to IWRM and gender. Subsequent chapters deal with the different sectors of water management: domestic and drinking water; sanitation; agriculture; environment, climate change and waste management. All chapters follow a prescribed format for consistency and include the following sections:

- **Challenges**
- **Benefits of a gender-sensitive approach to water supply solutions**
- **Using gender approaches in IWRM ('Getting it done')**
- **Further reading (online tutorial only)**

Each chapter includes strategies for implementing a gender approach to IWRM within the context of the sector it describes. For users that are interested in more details, a bibliography is provided at the end of each chapter in the online version of the tutorial.

A quick guide to the strategies and approaches described in the tutorial can be found after this introduction.

Gender mainstreaming: A quick guide to strategies and approaches

Gender mainstreaming is a process for improving the relevance of development agendas to the lives of all people, regardless of gender. In the context of integrated water resources management – IWRM – it means that the opportunities and benefits arising from water sector interventions will be equally available to women and to men.

Gender mainstreaming is an integral part of IWRM. This is a quick guide to methods and strategies generally used for gender mainstreaming which can be applied in different areas of water management.

There are two sections to this guide. The first summarizes strategies for mainstreaming gender in IWRM. The second section describes common approaches to mainstreaming gender in three main action areas:
1. policy and legal frameworks;
2. institutions and institutional arrangements;
3. operations.

More detailed information and sector-specific approaches or strategies can be found in the full tutorial, available at www.cap-net.org and at http://genderandwater.org/.

Strategies for mainstreaming gender in IWRM

FOR ENVIRONMENTAL SUSTAINABILITY

- Collect gender-sensitive data and use a gender and empowerment approach to understand how men's and women's roles impact the environment
- Work with local women and men, and stakeholders, to find creative solutions that are good for people and good for the environment.

FOR ECONOMIC EFFICIENCY

- Analyse who benefits from investments in water services, who pays for the benefits and who suffers.
- Make gender-sensitive investment decisions and technology choices based on consultations with users and beneficiaries.
- Establish gender-sensitive management to identify:
  - Who is in charge of each task in water management?
  - How can tasks can be distributed to maximize efficiency, fairness and effectiveness?
  - Who pays for water services?
  - Who is willing and able to pay?
  - What is the best way to overcome constraints to timely payment?
  - Who can effectively solve minor and major technical problems in water services?
- Use all available expertise, knowledge and skills.

FOR SOCIAL EQUITY

- Examine the distribution of benefits from water services and management. Use gender analysis and participatory methods to determine who participates in water programmes and institutions, who benefits, who is negatively impacted and how.
- Examine the effects of social investment during financial crises. Poverty and gender audits of policy and fiscal instruments will reveal who benefits and who loses out, and how.
- Use gender approaches to achieve both IWRM and poverty reduction goals. Gender analysis and budgeting help water managers to reduce inequity and improve the access of disadvantaged groups to water services.
- Promote transparent information systems that report gender-based data and promote the participation of women and men in IWRM.
- Encourage self-empowerment by using management systems that recognise, respect and use the skills and expertise of both women and men.

FOR GOOD WATER GOVERNANCE

- Ensure that gender-sensitive men and women are involved in planning water programmes and facilities.
- Understand the local context for water provision, recognizing that men and women have different needs and opportunities.
- Ensure that efforts to crack down on corruption in the water sector do not inadvertently hurt poor men and women.
- Recognize that women tend to be disproportionately affected by climate change and ensure that they have a voice in programmes for climate change adaptation.

How to use gender approaches

FOR POLICIES AND LEGAL FRAMEWORKS

Analyse

- Analyse current and proposed laws and policies to determine the status of women and men in relation to water laws and policies.
- Conduct a gender and poverty audit of post-economic crisis austerity measures.
- Collect gender-disaggregated information and data about stakeholders from micro- to macro-levels.

Promote equity

- Analyse access and control of resources by women and men as related to their position and status
- Advocate for:
  - explicit legal and policy recognition of women as users and managers of water;
  - legal mechanisms to ensure and protect access to water for all;
  - equitable access to credit and insurance.

Promote participation

- Promote stakeholder participation as a principle of water law.
- Identify and protect the groups that are likely to lose their stake in water services.
- Set up mechanisms for meaningful participation of men and women from different social groups.
- Develop the capacity of men and women to participate in meetings and forums.

Ensure accountability

- Establish accountability mechanisms for reporting on improved gender equity, using gender-disaggregated data.
- Ensure the implementation of existing commitments regarding gender issues and water.

Build alliances

- Form networks and alliances with like-minded organizations and institutions for advocacy support.

FOR INSTITUTIONAL ARRANGEMENTS

Conduct a gender audit or scan

- Carry out a gender audit of your institution to assess the use and effectiveness of gender approaches in your work.

Develop an equal opportunity staff policy

- Promote equal salaries and professional opportunities for women and men.
- Appoint women and men to functions where they are under-represented, e.g women in technical and managerial functions and men in support and administrative functions.
- Establish support structures that enable women to work away from home, such as child-care facilities, flexible working hours, etc.
- Aim for a highly diverse staff that includes women and men, young and old, people from different ethnic backgrounds, etc.

Build capacity on gender mainstreaming

- Train technical and managerial personnel in gender analysis and participatory methods.

Use gender-sensitive budgeting

- Ensure that there is adequate budget to address gender issues.
- Introduce gender-sensitive budgeting.

Use gender-sensitive indicators

- Collect data disaggregated by sex, age, socio-economic class, ethnicity.
- Develop sex-disaggregated indicators.
- Develop gender-sensitive qualitative and quantitative indicators.

FOR OPERATIONS

Conduct gender analyses related to water resources

- Use gender assessment tools to collect information from women and men about:
  - interests and motivating factors;
  - perceptions of problems related to water;
  - control of, and access to vital resources that enable/disable access to improved water resources and water supply systems;
  - needs, demands, practices and motives with respect to infrastructure.

Use participatory planning processes

- Seek the opinions of women and men on household water use, irrigation, access, technology and administration.
- Ensure equitable participation, giving consideration not only to gender, but also to other variables such as age, wealth and education.

Use appropriate economic instruments

- Take into account gender differences in terms of willingness and ability to pay for domestic and irrigation water.
- Understand the gender implications of economic instruments designed to assure cost-recovery in water supply projects.
- Consider gender differences in accessing subsidies and extension support.

Ensure information reaches, and is understood by both men and women

- Use communication channels that reach both men and women.
- Ensure that information is presented in such a way that it enables women and men to participate in decision-making and to make informed decisions and choices.

Target both women and men

- Involve women and men in the various stages of development projects, including the establishment of water system infrastructure, operations and maintenance.
- Ensure that development interventions provide both men and women with access to productive resources.
- Emphasize and encourage women's contribution as change agents and not just as beneficiaries of development interventions.

Chapter 1
General Concepts

KEY MESSAGE:
GENDER IS A CENTRAL PART OF IWRM

Mindanao river – used for washing, bathing and recreational activities.

Integrated water resources management (IWRM)

Understanding the connections between water management and use is critical to the design of effective policies and practices for addressing water challenges. The concept of IWRM, which dates back to the 1992 International Conference on Water and the Environment, exploits these connections by drawing on knowledge and insights from relevant sectors – finance, planning, agriculture, energy, tourism, industry, education and health – to develop sustainable and equitable solutions to water and development problems. IWRM enables the coordinated management of water, land and related resources in order to maximize economic and social welfare without compromising the sustainability of ecosystems and the environment.[1] In this chapter, we focus on four aspects of IWRM that contribute to the sustainable use of water resources: environmental sustainability, economic efficiency, social equity and effective water governance.

Environmental sustainability assures the capacity of nature to support life. Within the context of IWRM this means a healthy water cycle, adequate water for nature's needs, and less water pollution. Poor management of water resources will result in negative and often irreversible changes to the environment. Long-term water availability requires that ecosystems are able to continue to regulate water quality and quantity.

Economic efficiency. Water is vital for economic and social development and is indispensable to sustain and grow urban and rural livelihood activities. As water becomes scarcer, decisions about how every drop is allocated and managed become central to maximizing social and economic benefits and ensuring sustainability. This effort also includes sectoral and cross-sectoral actions for cleaner production, and water reuse and recycling, recognizing that freshwater is a limited resource and that investment in water projects must be viable.

Social equity. Water is a basic human need. Social equity requires that a fair share of water benefits and responsibilities be transmitted to women and men, poor and rich, young and old.

Water governance refers to the management of water and water systems. It addresses principles such as equity and efficiency in water allocation, the need for integrated water management and the need to balance water use between socio-economic activities and ecosystems. It also

[1] GWP, 2010. 'What is IWRM?', http://www.gwp.org/en/The-Challenge/What-is-IWRM/ (accessed 20 June, 2013).

includes the formulation, establishment and implementation of water policies, legislation and institutions, and clarifies the roles of government, civil society and the private sector with respect to ownership, management and administration of water resources and services.[2]

Gender

Every society has expectations of men and women and often these expectations vary greatly. A gender approach considers these different perceptions about what women and men should do and how they should behave. It uses methodologies, tools and strategies to examine and address the relations between men and women, differences in their levels of power, needs, constraints and opportunities and the impact of these differences on their lives.

Human development depends on gender equality, defined as equal rights, responsibilities and opportunities for men and women, girls and boys. Gender equality implies that the interests, needs and priorities of both women and men are given the same consideration. Gender equality is not a 'women's issue' but should concern and fully engage men as well as women. Equality between women and men is both a human rights issue and a precondition for, and indicator of, sustainable people-centred development.[3]

A gender approach places emphasis on the empowerment of women and vulnerable groups. Empowerment is a process in which people manage to improve their situations. Outsiders cannot empower vulnerable groups, but they can help by creating awareness and providing instruments for change. For example, water managers can advocate for improved laws and regulations that address the needs of vulnerable people with respect to water management.

There are four aspects of empowerment, which are closely linked:

- **Physical empowerment:** control over one's own body, sexuality and fertility, and the right to water, sanitation and healthcare.
- **Economic empowerment:** equal access and control over means of production, economic independence and the right to education.
- **Political empowerment:** the ability to have one's voice heard, the right to be organized and to take part in democratic processes
- **Socio-cultural empowerment:** the right to an independent identity, a sense of worth and self-respect.

GENDER TOOLS

Several gender tools can be used by water managers in their work.

Gender-disaggregated data. When social or community information is being collected, it is important to obtain separate data on women and men. Efforts should be made to interview women and men separately.

Gender analysis explores the different experiences, knowledge, talents and needs of women and men so that policies, programmes and projects can help them equally. Gender analysis also facilitates the strategic use of distinct knowledge and skills possessed by women and men.[4]

[2] WGF, 2013. 'What is water governance?' http://www.watergovernance.org/whatiswatergovernance [Accessed 18 June, 2014]

[3] UN Women – concepts and definitions [online] Available at: http://www.un.org/womenwatch/osagi/conceptsandefinitions.htm [Accessed 18 June, 2014]

[4] http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/BSP/GENDER/PDF/1.%20Baseline%20Definitions%20of%20key%20gender-related%20concepts.pdf.

Gender mainstreaming. The UN defines gender mainstreaming as: "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 programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality."[5]

Gender budgeting. Experience has shown that when there is no budget allocated to gender, it is often difficult to find funds to support gender aspects of projects and programmes. Gender mainstreaming requires adequate budgetary allocations.

Monitoring and evaluation. Projects should include gender objectives and goals at the design stage. Based on this, appropriate gender indicators can be developed in a participatory way. Gender impact and outcome assessments should be part of the M&E exercise.

How does gender relate to IWRM?

IWRM moves beyond the basic task of providing or managing water and water-related events by considering the social context within which these services are delivered and used. It aims to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment. To do so, it is important to adopt a gender approach. Gender mainstreaming in IWRM becomes increasingly urgent in a situation where water is becoming scarcer and competition among users is growing.

[5] UN ECOSOC, 1997. Agreed Conclusions 1997/2. United Nations, [New York].

LINKS BETWEEN GENDER AND IWRM

Gender and environmental sustainability

- Poor people may pollute water at the local level, e.g. through the use of household phosphates, which is most often the purview of women. However major pollution can occur through industry. Poor people can also be badly affected by industrial pollution of their water sources, which has a more serious impact on the health of women and children than on men.
- The impact of flood and drought events is often felt most severely by poor women because they lack the means to cope with disaster.

Gender and economic efficiency

- In urban areas, where drinking water services are often privatized, water providers charge large fees that few can afford. In most cases, the responsibility for accessing drinking water falls to women. Water facilities may not connect poor women to the water supply, assuming they cannot pay, whilst the cost of water per bucket is much higher.
- In rural areas the poorest households – often led by women – are increasingly cutting back on the quality and quantity of their drinking water as the price rises, and their incomes decline.

Gender and social equity

- When water is not supplied by a piped system, the burden of water collection usually falls on women and children, who must spend considerable time and energy on this activity, resulting in girls dropping out of school at an early age.
- Women and children are the most susceptible to water-borne diseases due to their reproductive functions and their responsibility for water collection, clothes washing and other domestic activities.
- Women are often the first to cut back their own consumption of food and water in the event of financial problems.
- Violence against women tends to increase during times of economic crisis, as a result of high stress levels within families and communities.

Gender and water governance

- Water planners must choose among competing demands: industrial, agricultural and domestic, as well as for a clean environment. Because women often are not able to make their voices heard, domestic water needs are usually given lower priority with the result that women must spend more time finding enough for the household.
- During economic crises, cuts in social sector spending can jeopardize women's jobs as water providers or child-carers. In the meantime, physical labour tends to go to men. When times are tough, subsistence agriculture is affected, which risks the food security of poor rural households.
- Often landowners are the only ones asked to participate in irrigation schemes. Landowners tend to be men, leaving women farmers with no voice in decision-making and no access to irrigation water.

The next section suggests strategies for strengthening the four aspects of IWRM using a gender approach.

Gender and environmental sustainability

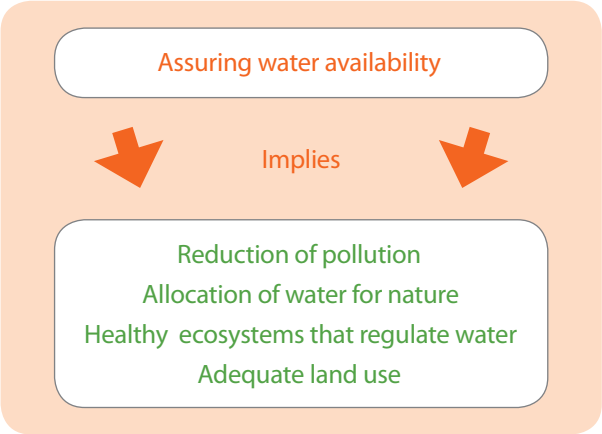
A gender approach to promoting environmentally sustainable use of water could include the following:

Targeted actions. Women and men use and access water, land and ecosystem resources in different ways. In order to prove effective, actions designed to improve water management should take into account these differences.

Creative solutions. Women and men have different types of indigenous knowledge that can help identify suitable environmental interventions. Examples of how gender-based knowledge can inform effective solutions include: making better choices of species for reforestation; knowledge of less vulnerable water sources, and more effective project management schemes.

Increased flexibility. Responses to foreseen and unexpected changes in water resources and environment are more effective when all people in the area can express their ideas about how to respond to the challenge. Under these conditions, women have become champions in ecological restoration initiatives that reduce vulnerability to droughts and floods.

Effective participation. Both women and men have an interest in promoting a healthy environment. Involving them equally in water management improves the chances of finding feasible solutions and handling trade-offs through dialogue and negotiation. This allows potential or existing conflicts around water to be addressed and resolved.



Sustainable environment and IWRM.

Gender and economic efficiency

Below are some examples of how economic efficiency can be improved by using a gender approach.

- **Effective investment.** Water infrastructure can be better managed and used when the expectations, experience, involvement and knowledge of both

Case study: Enhanced cost recovery by considering gender

In the 1990's, the Malawi government designed an innovative community management system to deliver piped water to low-income households. While technically successful, the effort was economically unsustainable due to problems with fee collection. This issue was resolved by recognizing that men were unable to effectively collect fees as they usually worked outside of town. Cost recovery and financial security was achieved (granting effective supplies to 24,000 families) by shifting responsibility for fee collection to women.[6]

women and men are taken into account. This enables targeted solutions in technology, payment and management systems and can result in better use of limited funds, human resources and water.

- **Enhanced cost-recovery.** The recovery of investment in water services can be improved if the traditional roles of both women and men in water management are recognized and promoted in an equitable manner.
- **Enhanced ownership.** Communities feel more committed to gender-sensitive water projects. A World Bank study of 121 water projects showed that the projects that included both women and men performed better than those that did not, especially in rural areas.[7] Broad participation was consistently a factor for success in terms of quality of project design and implementation, efficiency, operation and maintenance.
- **Reducing the negative impacts of economic crises.** During economic crises, governments and aid agencies normally impose austerity measures or economic stimulus packages. Gender and poverty audits can ensure that jobs have been created for both men and women, and guard against discrimination against women entrepreneurs and farmers by formal credit institutions. Directing funding to resources (water, inputs, credit) for women farmers will increase

Case study: Enhanced ownership through price differentiation

In Nepal a crowded ward of Kathmandu with 1200 households and 6000 inhabitants faced severe water scarcity. A programme was developed in 2010 to transport surplus water from a safe drinking water supply system six kilometres away. However, the cost incurred in transporting the water raised its price, threatening to marginalize the poor.

Inclusive water users' committees were formed to help set water prices. As women are responsible for managing water in the household, strict attention was paid to ensuring the participation of women, especially poor women, in these committees. The committees developed a system where the price per bottle of water was set depending upon the individual's capacity to pay. In this way, cost recovery and financial security was achieved, and the poor could access clean drinking water.[8]

[6] Maharaj, N., Athukorala, K., Garcia Vargas, M. & Richardson, G., 1999. 'Mainstreaming Gender in Water Resources Management – Why and how', Background paper for the World Vision Process. World Water Vision & World Water Council, Paris.

[7] Van Wijk-Sijbesma, C., 1998. Gender in Water Resources Management, Water Supply and Sanitation: Roles and realities revisited. IRC International Water and Sanitation Centre, Delft.

[8] GWA, 2012. Where to go? Resources on gender, water and sanitation for Cambodia, Lao PDR, Nepal and Vietnam. Gender and Water Alliance, [Dieren, the Netherlands].

food production for their families and reduce their dependency on food imports, thus addressing the balance of payment deficit.

- **Conflict prevention.** Conflicts are expensive, in social, economic and political terms. Consideration of gender in water management may help reduce potential conflicts related to:
  - **Water allocation.** Recognizing the impacts of water allocation (some of which are gender specific) early in the allocation process will reduce the potential for conflict and allow the development of targeted mitigation measures and new allocation schemes.
  - **Water tariffs.** Recognizing differences in ability to pay and understanding which family member is responsible for the water bill can reduce conflict. Many studies reveal that women usually pay for water even though their financial burden is greater than that of men. A gender-sensitive approach leads to tariff systems that are both affordable and economically sustainable.
- **Privatization**. Water privatization has sometimes led to huge cost increases, poor services, and the disconnection of public standpoints. In other cases, the experience has been positive, resulting in greater efficiency in water delivery and a positive impact on the health of water users. Nevertheless, privatization almost always leads to higher water tariffs and this places an additional burden on the poor.

Gender and social equity

A gender approach helps to achieve social equity goals in water management in several ways:

- **Enhanced distribution of benefits.** Gender-sensitive projects can determine and take into consideration the effects that water allocation has on human welfare and the whole economy. By informing water plans, policies and programmes, this knowledge can help reduce inequity.
- **Multiplier effect on welfare.** A 2012 WHO study showed that US$1 invested in water supply and sanitation brings $4.3 dollar in benefits at the global level.[9] Such benefits can be even better distributed if gender is taken into account. For example, many poor women use a fraction of supplied water in small-scale productive activities that would give them new income sources. In agriculture, gender-sensitive irrigation can help improve food security and income-generation. In addition to the social benefits produced under these scenarios, better nutrition has a multiplier effect on the economy.
- **Reduction of social cost.** In 2012, WHO estimated that the global economic loss associated with inadequate water supply and sanitation comes to US$260 billion annually. More than 70 percent of this figure stems from the loss of productive time due to health problems and time spent in collecting safe water (Hutton, 2012 *Ibid*). That time and energy, mostly of women, could be invested in other productive, domestic and community activities to benefit people and societies.
- **Reduction of poverty.** 70 percent of the world's poor are women. Women have lower incomes and are more vulnerable to unemployment, even as the number of female-headed households is rising. Gender-sensitive water projects seek creative ways to reduce the burden of those who are most poor and vulnerable.
- **Reducing the deepening gender inequality that results from economic crises.** Gender-sensitive social protection policies can increase investment in areas such as drinking water, sanitation, public health, education and childcare. This will ease women's care burden and generate jobs for them, as they are well represented in these occupations.

[9] Hutton, G., 2012. 'Global Costs and Benefits of Drinking-water Supply and Sanitation Interventions to Reach to MDG Target and Universal Coverage'. WHO/HSE/WSH/12.01. World Health Organization, Geneva.

- **Enhanced management and empowerment.** Water management systems perform better when they draw on the experience, knowledge and creativity of men and women. In this way, their expertise is recognized and wisely used. In addition, women and men are empowered to contribute to society's welfare in innovative ways.

Social equity not only enhances water management but can also create opportunities for people. Many water projects provide spaces for education, training and jobs. New water policies and legislation reform can change property and access rules. When wisely applied, all of these strategies can reduce inequity and benefit development.

Gender and effective water governance

A gender approach to water governance has many benefits.

- **Focus on priorities of both women and men.** Water planners often must choose among competing demands: industrial, agricultural, domestic and for nature. Frequently, the domestic needs of women are given lower priority. Ensuring the participation of women in water governance will help to ensure that their priorities are given consideration. Involving both men and women in the formulation, establishment and implementation of water policies, legislation and institutions will increase the effectiveness and equity of water governance.
- **Enhanced management.** Formal obstacles to women's participation in water institutions can include the lack of title deeds to land, which makes them ineligible for water user associations, or lack of technical qualifications for planning and management jobs. Informal obstacles can include male hiring committees that are reluctant to hire women, or frequent travel or long hours that make it difficult for women to reconcile work life with family life. Overcoming these obstacles is a key task for water managers.
- **Improved integrity.** Corruption leads to unsustainable projects and to services that do not meet people's needs. According to the World Bank, 20-40 percent of finance to the water

Why is corruption in the water sector a gender issue?

The ability of poor women to negotiate corrupt water systems depends on power and gender relations in their culture. In both urban and rural contexts, women's water needs, whether for domestic purposes, or for economically productive purposes, are given low priority by water managers and decision-makers. At the micro-level, women also suffer the consequences of corruption:

- **As the primary providers of water the household, they must deal with dishonest suppliers of water.**
- **Even if women are not asked to pay extra for water, they may be threatened sexually: worldwide many women have to pay with forced sex for water.**
- **If women cannot afford adequate water for their families, they may have to use dirty water and assume the burden of caring for sick family members who have been exposed to water-borne diseases. They themselves might become ill and they will lose opportunities to earn income.**
- **Finance intended for water supply is diverted, keeping the mortality rates, especially of women and children, high.**

sector is lost because of corrupt practices.[10] At a macro level, the draining of public funds by corrupt officials commonly leads to fewer resources in social services areas such as water supply and sanitation, education and health.[11]

Barriers to using the gender approach in IWRM

Despite the benefits that a gender approach can bring to IWRM, women still face major barriers to fully benefiting from water resources:

- **Gender blindness.** Many people involved in water policy, decision-making and implementation fail to recognize the relevance of differences between men and women with regard to needs, knowledge, access and control of water resources and capacities. By failing to see that societies are a mix of individuals and groups with different levels of power, wealth, influence and voice, this gender blindness makes it impossible to adequately understand and address water issues.
- **Gender neutrality.** The gender blind tend to assume that all government policies and legislation, and their associated budgets and programmes, are gender-neutral, even though this is often not the case. When there is no explicit attention paid to the different positions, responsibilities and circumstances of men and women, boys and girls, rich and poor, the laws will probably benefit some groups more than others.
- **Difficult gender mainstreaming approaches.** Water professionals have been told to mainstream gender, but often the suggested forms of gender analysis are complicated and time-consuming whilst budgets are small. Gender specialists need to be creative in finding easier ways to enable water professionals to take the different interests and contributions of the users of their technologies into account.
- **Cultural stereotypes:** Many gender stereotypes exist around water and its uses:
  - **Farmers are male.** While the percentage of women farmers changes from place to place, worldwide, more than half are women.
  - **Fishers are male.** Women and men play different roles in fishing. Women collect shrimp and shellfish near the coast while men catch fish using boats and nets. Freshwater fisheries also employ substantial female labour to process fish and repair nets.
  - **Men earn a living while women care for the family.** This stereotype neglects the role of fathers, who may also have domestic duties and have a critical responsibility as behaviour models.
  - **Men do all the heavy work, and women help with lighter tasks.** It is true that men are usually physically stronger than women. Nevertheless, women do the lion's share of drudgery work in most countries, while men only take on these tasks when they are mechanised.
- **No recognition for unpaid activities.** The activities involved in creating and caring for families and communities are unpaid and therefore often not recognized, undermining their contribution to well-being, health and food security. Consequently, women's needs in water provisioning, sanitation and subsistence farming tend to be ignored in national and international development agendas.
- **No attention to the powerless.** Marginalized women and some ethnic caste or age groups may find it difficult to speak out about their water problems and needs. Fostering broad participation in water management will not remedy the situation unless there is an effort to promote the confidence and the ideas of the normally voiceless.

[10] WGF, Cap-Net, WaterNet & WIN, 2011. Training Manual on Water Integrity. UNDP Water Governance Facility at SIWI, Cap-Net, Water-Net & Water Integrity Network, s.l.

[11] Transparency International, 2008. Corruption Report 2008: Corruption in the water sector. http://www.transparency.org/whatwedo/pub/global_corruption_report_2008_corruption_in_the_water_sector (accessed 18 June 2014).

- **Tokenism, isolation and lack of interest.** Although many governments have included gender issues in the water agenda, efforts are often tokenistic. Often considered a marginal issue, gender concerns are relegated to powerless and isolated units or contracted to consultants, making real change impossible. In some cases, women are brought into water institutions and decision-making processes based on quota policies, which often fails to empower them to take a strong stand. In others, water policies on gender lack teeth because of a lack of know-how, interest or commitment on the part of decision-makers.
- **Lip service and no budget.** When gender is included in plans of governments and of development programmes, the budget is usually too small to implement the activities. This leads to minimal actual work and no positive impact on poor women and men.

Using gender approaches in IWRM

FOR ENVIRONMENTAL SUSTAINABILITY

Collect gender-sensitive data to understand how men and women use and impact the environment.

Questions to ask:

- Who is using natural resources and why? (This information should be disaggregated by gender, age, ethnicity and class).
- What is the impact of using natural resources on the environment?
- Who benefits from the use of natural resources? (This information should be disaggregated by gender, age, ethnicity and class).
- Which users are negatively impacting water resources and why? (This information should be disaggregated by gender, age, ethnicity and class).

IWRM solutions can be found by using gender-sensitive participatory methods for project management and policy development.

- Who is being negatively impacted due to water use by others? (This information should be disaggregated by gender, age, ethnicity and class).

Work with local people to find creative solutions to environmental challenges.

Using gender-sensitive participatory methods in project management and policy development will ensure that both women's and men's voices are heard, a worthwhile objective since the people most affected by a problem have usually given a great deal of thought to the solution.

Outcomes:

- Solutions to environmental challenges build on traditional knowledge and good practices of women and men.
- Solutions are 'owned' by the local community, which is committed to act on them.
- Environmental benefits or disadvantages are not confined to specific gender or social groups.

Get men and women interested in solving environmental challenges.

Involving both men and women in decisions and implementation improves accountability, ownership

and flexibility and can enhance the effectiveness and sustainability of environmental solutions.

Outcomes:

- The nature of the dependence of women and men on the environment is taken into account.
- Men and women are well aware of environmental vulnerabilities.
- The trade-offs among the use of water and other natural resources and environmental conservation are thoroughly analysed and addressed, enhancing environmental sustainability without jeopardising livelihoods.

FOR ECONOMIC EFFICIENCY

Determine who will benefit from investment in IWRM, who will pay and who will suffer.

Using a gender approach, consider how priorities for water sector investment, post-economic crisis budgeting and financial incentive packages are determined, whether they support IWRM and whether increased consultation with women and men would yield better results.

Outcomes:

- Inequities in water sector investment are visible, enabling the development of better measures.
- The different impacts of economic crises on men and women are clear and inform equitable financial incentive packages, fiscal instruments, and budget measures.

Financial incentive packages in line with IWRM principles can help protect livelihoods.

- Investment priorities reflect a consensus among users, policy-makers and water managers.

Ensure gender-sensitive technology choices.

Ask women, girls, physically challenged and elderly people for their specific needs in design of toilets. Involve the users themselves in the maintenance of water infrastructure.

Outcomes:

- Water technologies are appropriate, affordable and acceptable to their male and female users.
- Technologies are used and maintained.

Establish gender-sensitive management practices.

Consultation with men and women can determine who is responsible for water management tasks and whether the tasks can be better distributed to maximize efficiency, fairness and effectiveness. Research on household income allocation can identify who pays for water services, willingness and ability to pay and the best way to overcome constraints to timely payment. And a gender-sensitive analysis of water operations and maintenance procedures can help managers understand who can best solve technical problems.

Outcomes:

- Risk of gender-biased or inequitable management practices is reduced.
- Existing good management practices are visible and supported.
- Operational systems work for the people that use them.
- Cost-recovery for water services improves.
- Women and men are satisfied with their water services.
- Conflicts due to tariffs and/or discontinuity in service.

Use all available expertise, knowledge and skills.

Women and men have different tasks in water management, thus different skills, knowledge and expertise.

Outcomes:

- Policies and practices in water management at all levels are relevant and adequate.
- Water managers and users are committed to supporting IWRM.

FOR SOCIAL EQUITY

Use gender approaches to understand and address the distribution of benefits from water services management and use.

Outcomes:

- Men and women, rich and poor, benefit equally from water services.

Use poverty, empowerment and gender audits to assess the effects of social investment on men and women.

Outcomes:

- A better understanding of how investment in drinking water, sanitation, public health, education, and child care can ease women's care burden and generate jobs for men and women.
- Stronger and more equitable fiscal policies and instruments.

Use gender approaches to achieve IWRM and poverty reduction goals.

Outcomes:

- Gender analysis based on an empowerment approach and gender budgeting help water managers to reduce inequity and improve the access of disadvantaged groups to water services.

Gender analysis and participatory methods reveal who participates, who benefits, who is most affected and how. Photo: CGIAR

Promote transparent information systems that report gender-based data and promote the participation of women and men in IWRM.

Outcomes:

- Gender and other social inequities are visible, facilitating awareness and progress toward addressing their root causes.

Help people to empower themselves. Consider and address poor women and men as knowledgeable users of the water technologies and agents of change, not as victims.

Outcomes:

- Water management systems recognize, respect and use the skills and expertise of men and women.
- Poor people are supported and their capacities are enhanced.
- Gender inequity is reduced.

FOR WATER GOVERNANCE

Ensure that the men and women involved in planning water programmes and facilities understand and support gender approaches.

Use simple approaches such as the four elements of empowerment (economic, political, socio-cultural and physical) for analysis of a situation and as objectives.

Outcomes:

- Water programmes and facilities take account of the needs, interests and knowledge of both men and women of different categories.
- Local people with different backgrounds have ownership of water programmes and facilities.

Use gender approaches to understand the local context for water services.

Outcomes:

- Water programmes take account of existing local power structures and create opportunities for everyone to access water equally.

Greater protection for vulnerable people in the face of droughts or floods is important for protecting livelihoods.

Ensure that efforts to crack down on corruption in the water sector do not inadvertently harm the poor.

For example, although water meter readers are sometimes corrupt, they may be in the service of the only affordable source of water for the poor.

Outcome:

- The needs of poor men and women must be factored into anti-corruption actions.

Given their greater vulnerability, ensure that women have a voice in water programmes for climate change adaptation.

Outcomes:

- The poorest people are protected from water-related emergencies, such as droughts or floods.
- The poor have better food security.
- Women have access to new skills, such as the use of climate change-related early warning systems.

Chapter 2

Domestic and drinking water

KEY MESSAGE:
DAILY ACCESS TO SAFE WATER IS A HUMAN RIGHT

Domestic and drinking water challenges

- Although more than 2 billion people have gained access to clean drinking water sources since 1990, there are still 780 million people worldwide without access to regular and safe drinking water. Only 61% of the people living in sub-Saharan Africa have access to clean drinking water.[12]
- People in rural areas are five times more likely to drink unsafe water than are city dwellers. Eighty percent of the people in urban areas have water taps in their homes, as compared to 30% in rural areas.
- According to the World Health Organization, about five million people die each year from poor drinking water or inadequate sanitation, often linked with water shortages.
- According to the Intergovernmental Panel on Climate Change, there is a 90 percent chance that climate change will increase the competition for water, as rainfall decreases and droughts lead to higher demand for irrigation water and reduce the availability of freshwater for domestic use.
- Climate change is also likely to affect water quality by increasing (or decreasing) precipitation and raising the temperatures of lakes and streams. The appearance of bacterial or fungal growths in their water could compel communities to treat it, thus increasing cost.

[12] WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 2012. 'Progress on Drinking Water and Sanitation'. United Nations Children's Fund, New York.

Women and water

While everyone is affected by not having enough water to drink, women are more directly and negatively affected than men. In developing countries, collecting water is considered the work of women and children, especially girls, who are taken out of schools to help with household chores like fetching water. In some countries, women and girls can spend eight hours a day carrying up to 40 kg of water on their heads or hips, sometimes suffering injuries. Women are generally more vulnerable and less able than men to escape poverty. Lack of access to safe water makes it even more difficult for women to break

Women are most directly affected by inadequate water supply since it is usually their responsibility to obtain it for family use, however difficult the access may be to the water source.

out of the cycle of poverty because they are forced to spend most of their productive time gathering water. They become ever more dependent on the incomes of male family members, deepening household inequalities. During times when water is very scarce, men's water needs often come first, forcing women and children to travel even further to find water for the household. When a water source is far from their homes, women and girls can face greater risk of sexual or other violence. In urban areas, a shortage of public taps can mean a long wait and often escalation of conflicts.

Public sector budget cuts have prompted governments in developing countries to withdraw from water supply services, leaving them to the

Case study: Gender and water in Dhaka

A study in the slum of Korail, in Dhaka, Bangladesh, found that water scarcity and limited power increased women's daily physical workloads, deepened their emotional strain, and had high opportunity costs, resulting in frequent sickness, limited educational and employment opportunities and stagnant social mobility.

The large majority of women surveyed wanted public provision of water because it meant access for everyone at an affordable cost. Also, they saw public access as a way to gain rights and to redress injustices that are reinforced by inequitable water provision. The research unveiled important class inequalities among women that need to be addressed in order to build a truly fair and accountable public water system.

The Korali study underscores the importance of questioning local power hierarchies by integrating a gendered perspective in debates on alternatives to privatization of water services.[13]

Case study: Harvesting rainwater in Brazil

The northeast of Brazil is a semi-arid region, characterized by severe lack of water and droughts that contribute to underdevelopment. The 'One Million Rainwater Harvesting (RWH) Programme' was launched by civil society groups in the region, targeting rural families without a secure drinking water source close to their home. The programme reduces women's daily work in fetching water by providing RWH tanks to catch rainwater. When there is not enough rain to fill the tanks, water trucks make up the difference. By May 2013, more than two million people had been mobilized and 450,000 RWH systems constructed under the programme.[14]

[13] Sultana, F., Mohanty, C.T. & Miraglia, S., 2013. 'Gender justice and public water for all: Insights from Dhaka, Bangladesh'. Occasional Paper No. 18. Municipal Services Project, Kingston, Ontario, Canada. http://www.municipalservicesproject.org/publication/gender-justice-and-public-water-all-insights-dhaka-bangladesh (accessed June 17, 2014).

[14] Nogueira, D., 2008. 'Brazil: Rainwater harvesting in semi-arid region helps women', http://genderandwater.org/en/gwa-products/knowledge-on-gender-and-water/articles-in-source-bulletin/brazil-rainwater-harvesting-in-semi-arid-region-helps-women-1/brazil-rainwater-harvesting-in-semi-arid-region-helps-women (accessed 20 June, 2014)

private sector, especially in urban areas. In some cases, privatization has led to huge cost increases. Economic crises in many countries means that micro-finance institutions have fewer funds to loan to the poorest people, who are mainly women. With no other choice than to borrow from informal money lenders, women fall further into poverty and debt.

The benefits of a gender-sensitive approach to water supply solutions

Targeting women as well as men in developing water supply solutions yields many direct and indirect benefits:

MORE EFFICIENT WATER USE

- **Female participation in decision-making:** When women's concerns, such as the location of water points and public latrines, are taken into account and their expertise recognized, water management becomes more effective.
- **Improved adaptability during periods of water shortage:** Women have special knowledge of alternative water sources that can be used during periods of shortage.

MORE SUSTAINABLE WATER SUPPLY SYSTEMS

- **Broader service coverage:** Involving more women in determining the location of water facilities and in local management and financing will keep water systems sustainable and inclusive.
- **Effective design of water supply systems:** Considering the different water needs of both women and men help in the choice of the technologies for their different contexts.
- **Reduction of conflicts:** Giving attention to and respecting the views of both men and women provides critical information about what is and is not possible and builds people's social acceptance and respect.
- **Improved maintenance:** It is in the interest of women users that broken hardware is repaired immediately, so if they are taught to carry out small repair work, the systems will be more sustainable.

Case study: Thirsting for Justice

Israel controls all fresh water sources in the West Bank, and its policies and practices limit the access of Palestinian citizens to water. As a result, Palestinians in the West Bank are forced to purchase over half of their water from Israel.

Gaza dwellers depend on the Coastal Aquifer for their drinking water, but it is contaminated due to over-extraction and sewage contamination, making it unfit for human consumption. Desalination of seawater is costly and unsustainable and Israel also limits the import of construction material for repair and rehabilitation of infrastructure that would improve water management.

The 'Thirsting for Justice' campaign kicked off on World Water Day 2011, calling on European governments to put pressure on Israel to respect international law and the basic human right to water and sanitation. This campaign is an initiative of the Emergency Water Sanitation and Hygiene group (EWASH), a coalition of 30 leading humanitarian organizations.[15]

[15] Emergency Water Sanitation and Hygiene group (EWASH), 2010. 'Thirsting for Justice. Palestinian rights to water and sanitation', http://www.thirstingforjustice.org/ (accessed 20 June, 2014).

Cultural beliefs and values attached to water sources can help to protect them from contamination.

IMPROVED PROTECTION OF WATER RESOURCES

- **Protection of water supply sources:** The participation of both women and men in water supply projects can improve attempts to identify and resolve pollution and land use problems in the catchment.
- **Improved health conditions:** Talking to women and men can help identify gender specific reasons for exposure to water-borne diseases and ensure the development of the right responses.

SOCIAL AND ECONOMIC DEVELOPMENT

- **Education benefit:** Drinking water and sanitation projects that reduce the water-related chores assigned to women and girls give them more time for education and training.
- **Social benefit:** When women no longer have to travel long distances to fetch water, there is a notable reduction in acts of violence and aggression against them.
- **Economic benefit:** Reducing the exposure of women to water-borne diseases improves their economic status both by reducing healthcare expenses and by ensuring they are healthy enough to work.

Getting it done

Taking into account the different needs of men, women and children in the design of water programmes and projects will ensure that water systems are both effective and inclusive. Gender considerations should be incorporated at all levels of sustainable water supply system development: the enabling environment, the institutional environment, and the operational components.

Case study: Gaining benefits from domestic water supply in India

Researchers tested the assumption that domestic water projects in semi-arid areas are not only important for welfare and family but also have economic benefits in 27 villages in Gujarat, India. The overall aim was to see if and how domestic water supply projects in such areas need to be adjusted to maximise the economic benefits of the productive use of water and time.

The study found that the quality of the water service had significant economic consequences. Breakdowns of the water supply caused women a loss at an average of Rs. 50 per person per month in earnings. An improvement of the water supply to the extent that women spend one hour, instead of three hours, per day in collecting water would result in an improvement of their annual income with upper boundaries of between Rs.750 and Rs.5520 depending on type of enterprise and local conditions. Alternatively, each woman might gain back between 45 and 152 eight-hour days annually for domestic, social, and management activities.[16]

[16] GWA, 2006. Resource Guide: Mainstreaming gender in water management. Gender and Water Alliance, [Dieren, the Netherlands] & United Nations Development Programme, [New York].

Women's knowledge of alternate ways to access water for domestic use should be taken into account when designing water projects and services.

ENABLING ENVIRONMENT

An enabling environment comprises the laws, policies and practices that stimulate and support organizations and individuals. Gender analyses of existing laws and policies in the water sector can help to make the enabling environment more effective and inclusive in future.

Gender analysis

- Gender analysis helps determine how current water laws and policies affect men and women.
- Gender analysis can predict the gender impacts of changing water law and policies and calculate whether budget allocations will balance inequities in the water sector.
- Gender and poverty audits by governments and international organizations (the World Bank, International Monetary Fund, etc.) provide the basis for strategies to reduce the negative impacts of post-economic crisis actions on poor men and women.

An effective and inclusive enabling environment:

- supports gender awareness in the water sector through capacity development and training;
- seeks legal and policy guarantees for women's water rights;
- advocates for social protection policies and mechanisms that ease women's care burden, freeing up their time to participate in paid work, and invest in social networks;
- promotes legal recognition of women's involvement in structures and mechanisms for citizen participation in water supply systems;
- seeks equitable participation by the poorest women and men.

INSTITUTIONAL ARRANGEMENTS

Opportunities can be found for incorporating attention to gender as part of a process to bring greater efficiency and sustainability to water management institutions.

Gender analysis

- Gender analysis based on the four elements of empowerment helps to assess how women and men differently influence the effectiveness of water management.
- A gender audit can reveal whether the institutions have mechanisms for addressing water inequities.

The most effective water management institutions will include the following components:

Capacity development on gender issues

- Training for technical and managerial staff in gender analysis to ensure better system performance and fairness.
- Training in the participation skills necessary for working with local water users.

Monitoring and evaluation

- A framework for monitoring and evaluating sector/institutional performance on gender issues that can reveal hidden problems and potential solutions.

Case study: Gender mainstreaming in water and sanitation in African cities

In the *Water for African Cities Programme*, GWA helped UN-Habitat with rapid gender assessments in 17 large cities. The assessments provided a basis for a gender mainstreaming strategy for the participating cities. This film shows the importance of gender mainstreaming in water and sanitation and how it helped to change the lives of many poor women, children and men.[17]

- Gender-disaggregated analytical indicators.
- An independent fiscal oversight body, with equal representation by women and men, to help monitor expenditures during economic crises and ensure that financial incentive packages are equitable.

Budgeting

- An explicit budget allocation for balancing gender in water sector programmes.

Gender sensitive budgeting in water sector programmes can create better access to water for local communities.

An equal opportunity policy

- Women serve in technical and managerial roles.
- Women have equal salaries and equal access to opportunities.
- The institution has measurable, gender-disaggregated targets to enable progress in staffing to be monitored.

OPERATIONS

The practices and procedures involved in water supply management will be more effective and efficient if gender issues are taken into account.

Gender analysis

- Gender analysis can assess differences in the water needs and interests of women and men.
- Gender analysis can reveal differences in the access that men and women have to improved water supply systems.

The most successful water management operations include the following elements:

Case study: Gender mainstreaming in water management in Kenya

To substantially boost gender integration in Kenya's water sector, a team of professionals from the World Bank, the Water and Sanitation Program (WSP) and the Ministry of Water and Irrigation (MoWI) pooled their resources and energies. This resulted in effective strategies for gender mainstreaming, illustrating the benefits of forging partnerships with a wide range of development actors.

[17] UN-Habitat & GWA, 2010. 'Gender Mainstreaming in Water and Sanitation in African Cities' [video]. http://www.youtube.com/watch?v=crDPHDLIMAI&list=PL1280AF6A44B9926A&index=15 (accessed 17 June, 2014).

Planning

- Planning processes encourage a gender–balanced expression of ideas, targeting women's opinions about household water use, access options, technology and administration.
- Planning considers the variable impacts of water supply projects and programmes on women's and men's lives.
- Planning takes into account data on gender–sensitive indicators.

Economic instruments

- Operations take into account gender differences in willingness to pay and ability to pay for domestic water.
- Considerable attention is given to the gender implications of any economic instrument designed to assure cost-recovery in water supply projects.

Information

- Communication channels equally reach men and women with information that enables them to participate in decision-making.

Chapter 3
Sanitation

KEY MESSAGE:
TOILETS FOR ALL! INVOLVE WOMEN AND GIRLS IN TOILET DESIGN

Sanitation challenges

- Worldwide, 2.5 billion people, mostly in Asia (80 percent) and Africa (13 percent), lack access to improved sanitation. 71 percent of them live in rural areas.
- While open defecation, mostly in rural areas, is decreasing in Asia and Latin America, it is increasing in Africa.[18]
- Lack of sanitation facilities and hygienic attitude results in many deaths worldwide, mostly of women and children.
- The disposal of untreated waste, particularly sewage, pollutes soil, surface water, and groundwater. It can be disastrous to aquatic life, which is a source of livelihoods for many rural people.
- Billions of objects such as condoms, plastic bags, sanitary towels and children's nappies are disposed of in sanitation systems annually. These

Access to safe, clean water, improved sanitation and good hygiene enables women and girls to take control of their lives.

Sanitation and climate change

Floods and droughts – a consequence of climate change – have serious public health impacts. As water quality deteriorates, the availability of water becomes less certain and sanitation systems are damaged, contaminating the environment. Further problems may arise from the reduced capacity of the environment to absorb and dilute pollution.

Climate change threatens future gains in access to water and quality sanitation services. Indirect effects, such as energy interruptions, affect water supply, increasing the unreliability of piped water and sewage services.

[18] WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 2013. 'Progress on Drinking Water and Sanitation'. World Health Organization, Geneva

items are a frequent cause of clogging, contribute to solid waste pollution of water resources, and are becoming a significant problem in coastal areas.

- Sanitation options often do not take into account cultural taboos or traditional practices. In some cultures, for example, it is considered inappropriate for men and women, even in the same family, to share sanitation facilities.
- Many sanitation systems still rely on water to flush, adding an additional water-fetching burden for women and children.

Women and sanitation

In many cultures, women and girls have restricted mobility, which limits their access to toilet facilities or open defecation areas that may be far from home. They face higher risks of sexual assault when they are looking for privacy to defecate. This risk is also increased in the absence of sex-separated facilities, particularly in schools.

When women do not have adequate access to sanitation, they may try to control their diets, leading to nutritional and health problems. Limited toilet opportunities for women increase the chance of urinary tract infections and chronic constipation as well as causing psychological stress. In many societies, the task of cleaning toilets falls to women or children, thereby increasing their exposure to disease.

Menstruation poses additional requirements for women, which are seldom considered in the design of sanitation facilities. In particular, school facilities are frequently poorly maintained and do not contain the supplies (e.g. water, soap or pads), or privacy that girls need. As a result, girls often stay at home to manage their menstruation and may even drop out of school altogether.

The benefits of a gender-sensitive approach to sanitation

BETTER ACCESS TO ACCEPTABLE SANITATION

- **More appropriate and acceptable sanitation solutions:** Involving women and men in designing sanitation systems will ensure they meet the needs of both and will strengthen community resolve to ensure that the systems work.
- **Better maintenance and cleaning:** Since women are responsible for cleaning sanitation facilities, they are usually the first to detect and solve problems. As a result, they know about maintenance and the advantages and disadvantages of different technologies.
- **Empowerment:** The change from open defecation to a clean toilet close by gives women a sense of dignity. Involving them in decision-making empowers them socially and politically. Not having to travel a distance to an open defecation area gives women more time to spend productively, which could aid their economic empowerment, particularly if they have control over the extra income.

SOCIAL BENEFITS

- **Increased sanitation coverage:** A gender-sensitive approach helps to boost demand for better sanitation and addresses cultural barriers and taboos.

Sexual violence against women can be reduced drastically when gender sensitive decisions are made about location, privacy and other features of sanitation facilities.

Case study: Access to better sanitation services in Ghana

UN-Habitat and WaterAid joined forces Accra to improve sanitation services for the Sabon Zongo community. Initial designs were reviewed by a development committee, opinion leaders, and disadvantaged groups in the community and amended to reflect their concerns.

A 20-seater bathroom facility was constructed to ease pressure on the public toilets in the community. A small fee is charged for entrance, which helps pay for upkeep and enables the fee-takers – mostly women – to earn some income, thus benefiting about 25 percent of the population. The well-ventilated building is divided into sections for women and men, each with six sitting toilets, three traditional squatting toilets, and a wide stall with a wheelchair ramp and handles for disabled people. There is even a sentry post at the entrance - no one gets past the attendant without using soap. In addition, 1100 local school children now have two sanitary facilities, each with eight toilets. This saves them from having to go to the public facilities in town and gives them more time for their studies. The sanitation improvements in schools are said to have decreased the incidence of school drop out among young girls.[19] [20]

Case study: Enabling girls to learn

Hope Asekenye, 12, lives in Mpigi district, Uganda. She is in primary six at Equator Primary School, is chairperson of the School Health Club and leader of the Girls' Hygiene Initiative. Support from WaterAid has enabled the girls in her school their own toilet facilities and washrooms. Hope says, "We have two bathrooms. One bathroom with six stalls is shared by teachers and adolescent girls. Another is used by girls in lower classes. When we got the new toilets, the old bathrooms were left for the boys. We also have washrooms where we wash and hang our pads during menstrual periods." The girls at Hope's school are excited to attend school now, knowing that they no longer have to miss classes during menstruation. Simple things like a shower room and access to water improves girls' academic performance, allowing them to gain a full education.[21]

- **Better school attendance:** Easy access to clean toilet facilities and washrooms motivates adolescent girls to stay in school and achieve their learning potential.
- **Health:** Provision of good sanitation facilities will lead to fewer diseases associated with poor hygiene.
- **Reduced violence against women:** Sexual violence against women can be significantly reduced when gender-sensitive decisions are made about the location and privacy of sanitation facilities.

[19] UN-Habitat, 2009. 'Water for African Cities Programme Phase II'. United Nations Human Settlements Programme, Nairobi

[20] UN-Habitat, 2011. Gender Mainstreaming Impact Study. Water and Sanitation Trust Fund Impact Study Series. United Nations Human Settlements Programme, Nairobi.

[21] Mengistu, B., 2012. 'Empowering women and girls. How water, sanitation and hygiene deliver gender equality'. Water Aid, s.l.

PROTECTION OF NATURAL RESOURCES

- **Improved practices:** Evidence shows that women tend to decide what will be thrown away and where, making it important to involve them when considering changes to sanitation and hygiene practices.
- **Ecological sanitation solutions:** Environmentally friendly sanitation solutions require a commitment from both women and men. Involving them can help identify sound technical options that fulfil women's and men's interests and protect the environment at the same time.

Getting it done

Maximizing the benefits of a gender approach to sanitation requires action in three areas:

- legal framework and policies;
- institutional arrangements;
- management instruments.

LEGAL FRAMEWORK AND POLICIES

Policy

- Water managers should influence the design of distinct policies and strategies for sanitation, ensuring that it gets the attention it deserves.
- Water managers should support the targets that are likely to be included in the Sustainable Development Goals (SDGs), which will succeed the Millennium Development Goals (MDGs) after 2015. In 2012, WHO and UNICEF proposed to include:
  - **Target 1:** By 2025, no one will practice open defecation and inequalities in the practice of open defecation will have been progressively eliminated.
  - **Target 2:** By 2030, everyone will have access to drinking water and washing facilities at home, all schools and health centres will have drinking water and adequate sanitation, washing and menstrual hygiene facilities and inequalities in access to these services will have been progressively eliminated.[22]

Case study: Sanitation and integrity in South Africa

Governments have tried hard to reach the MDG goal on sanitation: "to halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation." The result has been a focus on number of toilets constructed, not whether they are actually used.

In South Africa, a local group, the Social Justice Coalition, performed an audit of toilets provided by a supplier contracted by the City of Cape Town. They concluded that the contractor received at least R126 million (more than 12 million dollars) over a three-year period to service and maintain temporary chemical toilets. The group found only 256 toilets in the four audited areas, 90 fewer than specified in the contract. Only 68% of toilets inspected had been serviced in the previous week. Over half of the toilets were unusable and 66% were damaged. Despite the contractual requirement, none of the toilets were safely secured to the ground and residents complained that they were easily knocked over by weather or vandals. The contract provided for community liaison officers but the audit could find no evidence of their existence, making it difficult for residents to communicate problems to the contractor.[23]

[22] WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 2012. 'Report of the Second Consultation on Post 2015 Monitoring of Drinking Water Sanitation and Hygiene'. World Health Organization & United Nations Children's Fund, The Hague.

[23] Turner, F., 2013. 'Activist group accuses City of failing to monitor toilet contracts'. GroundUp, Rondebosch, Cape Town.

Gender analysis

- A gender-sensitive analysis of current sanitation policies and laws is needed to examine their impacts on both women and men.
- Gender-sensitive, participatory impact studies can provide hard evidence of the impact of economic crises on the poorest and most vulnerable people and the extent to which this affects their access to safe and appropriate sanitation.
- A gender and poverty audit of post economic-crisis austerity measures can help ensure that poor people do not lose their basic human right to safe sanitation.
- Researchers should work with technical and gender experts to ensure that gender-disaggregated data is collected at all levels (from project data to regional, country, and global statistic data) as a basis for monitoring progress on gender and equity goals and to underpin sound policy formulation.

Inclusion

- Water managers should urge policy makers to include women in decision-making on sanitation services.
- Sanitation projects that do not involve the full participation of women should be discontinued.
- Senior water managers should be responsible for ensuring the use of gender approaches in sanitation projects.
- Water managers should advocate for social protection policies and mechanisms that increase investments in safe and appropriate sanitation solutions for men and women.
- The development of sanitation policies should include incentives for the efficient use and reuse of water that will benefit women as well as men.

INSTITUTIONAL ARRANGEMENTS

The most effective water management institutions will include the following components:

Capacity Development

- Training is provided for technical and management staff in the use of gender and participatory approaches aimed at achieving more effective water and sanitation services.
- Training is provided for women and men on how to construct different types of sanitary facilities.
- Training is provided for women and men on how to carry out minor repairs.
- Training is provided for women and men to serve as hygiene promoters, teaching others about how to prevent sanitation-related diseases.
- Training is available to women at a time and place that allows them to combine it with their household duties.

Case study: Increasing the participation of women in Nepal

In Nepal, there is a rigid division of roles in water and sanitation activities. While women are mostly responsible for the water-related activities of the household, they are not involved in formal activities facilitated or initiated by external agencies. The Centre for Integrated Urban Development (CIUD), a civil society organization, aimed to increase women's participation in overall water and sanitation management, including leadership, decision making and technology. The intervention involved training local women in issues relating to water, sanitation and menstrual hygiene. As a result of women influencing the decisions, the occurrence of diarrhoea and dysentery in the project area has been drastically reduced.[24]

[24] GWA, 2010. 'Case Studies on Mainstreaming Gender in WATSAN Programs'. Gender and Water Alliance, Dieren, the Netherlands.

Technical and managerial staff, who are trained in gender and participatory approaches can help achieve more effective water and sanitation services.

Gender balance in staffing and conditions of service

- Women serve in technical and managerial tasks, not only as assistants or secretaries.
- Women have equal salaries and access to management opportunities. Labour is equitably divided between women and men.
- Women and men have equal opportunities to access education and training in both technical and managerial tasks.
- Unisex work-suits are provided for women and men who want to participate in the construction of water and sanitation facilities.

Gender-sensitive budgeting

- Effective institutions ensure that there is adequate budget to address gender issues. A true commitment to gender mainstreaming requires enough funds to recruit and retain gender experts and to enable the implementation of gender-sensitive policies and programmes.

Monitoring and evaluation

- A simple framework is needed for monitoring and evaluating the performance of the sanitation sector on gender issues.
- Gender-disaggregated indicators should be used to determine who is responsible for excreta collection and disposal and intra-household differences in access, control, and use of sanitation facilities. Such data often reveals issues needing attention.
- The indicators should include:
  - The number (percentage) of women that work in sanitation facilities, e.g. as waste collectors;
  - The number of women in decision-making positions in sanitation facilities;
  - The proportion of women to men participating in municipal management and governance of sanitation;
  - The proportions of women and men trained in the use and maintenance of sanitation facilities;
  - The percentage of women and men that understand the importance of protecting surface and ground water;
  - The additional income generated by women and men as a result of improving sanitation;
  - The size and number of poor households that have water connections, with or without subsidies;
  - The number of cases of violence against women/girls reported during the use of sanitary facilities;
  - The descriptions of such cases of violence, and what was done about it;
  - The proportion of men to women responsible for disposing of faecal waste at household and public sector levels;
  - The tasks of women and men in cleaning and maintaining sanitation facilities and the time spent on these tasks;
  - The number of primary and secondary schools with separate sanitation facilities for girls and boys on or near the premises.

Additional suggestions for indicators can be found in Box 1.

Information and communication

- The special interests and needs of women should be considered in the development of communications messages and tools about sanitation.
- Women should themselves be involved in developing tools and messages and disseminating information about sanitation issues.

- Workshops for women can facilitate an open dialogue where women and girls feel free to talk about issues such as menstruation and menstrual hygiene.

MANAGEMENT INSTRUMENTS

Social assessments

- Social assessments detail the differences in the needs, demands, practices and motives of women, men, boys and girls with respect to sanitation facilities.
- Social assessments determine differences in access and control of resources that enable/disable people to use clean sanitation facilities.

Any assessment should take into account the different needs of physically challenged women and men.

Planning

- In planning, water managers should allow a gender-balanced expression of ideas, targeting women's opinions about current practices, alternatives, technology and the administration of water facilities.
- Equitable participation means giving consideration not only to gender, but also to variables such as wealth and education.
- Gender-disaggregated data reveal differences in the benefits and impacts that women and men experience from sanitation actions.

Economic instruments

- Consider gender differences in terms of willingness and ability to pay for sanitation services and to access subsidies and extension support.

Hygiene education becomes more meaningful when sanitation facilities are in place. Photo: SuSanA

Box 1: Additional gender-sensitive indicators for monitoring water and sanitation services

Issue	Parameters	Indicator
Costs and benefits	Economic benefits from greater access to water	▸ Percentage increase in income for women and men from the productive use of water; ▸ Number of poor households benefiting from subsidized connections; ▸ Number of women heads of households who pay their water bills regularly; ▸ Percentage savings of men, women and young people.
	Costs and benefits from privatizing water and sanitation	▸ Number of men and women who own private water and sanitation facilities; ▸ Number of men and women who earn income as caretakers of water and sanitation facilities, water sellers or waste collectors.
	Female/male-headed household expenditures on water and sanitation	▸ Percentage of total income spent by women and men to access water and sanitation services.
Public and school water and sanitation services	State of public sanitation services	▸ Number of public toilets with separate facilities for women and men; ▸ Existence of a national strategy for sanitation in schools; ▸ Ratio of toilets to girls and boys in primary schools.
	Extent of public/ private catering to menstrual needs	▸ Existence and quality of sanitation facilities that meet the menstrual needs of women and girls.
	Prevalence of open defecation	▸ Ratio of men to women practicing open defecation
Health and sanitation	Prevalence of water borne diseases, e.g. cholera	▸ Percentage of women, men, girls, and boys affected by outbreaks of water-borne diseases.
Research methodology	Sex of interviewers/ respondents in WATSAN surveys	▸ Number of women interviewers leading water and sanitation surveys; ▸ Number of women responding to household surveys.

Source: Adapted from UNDESA and UNW-DPC 2009 Gender-Disaggregated Data on Water and Sanitation Expert Group Meeting; and UN-HABITAT 2006 Framework for Gender Mainstreaming, Water and sanitation for Cities, and selected sources from the inventory list in this report.

Source: (GWA, 2012)[25]

[25] GWA, 2012. 'Count and be Counted, be Empowered'. United Nations Human Settlements Programme, [Nairobi] & Gender and Water Alliance, Dieren, the Netherlands.

Chapter 4
Agriculture

KEY MESSAGE:
FARMERS ARE BOTH MEN AND WOMEN

Agriculture challenges

- Agriculture is the largest user of water, responsible for a global average of 70 percent of water withdrawals. Water is a crucial element in food production, and food security is closely linked to water security. Water considerations for agriculture include not only irrigation and drainage, but also rainfed agriculture, recycled water, water and land conservation, green water (soil moisture) and watershed management.
- According to FAO (2010)[26], food production will have to increase by 70 percent to feed a global population of 9 billion people by 2050. In order to meet this demand for food, water productivity will have to be improved not only in irrigated, but also in rainfed areas. Yet given the high investment costs and the growing competition for water among agriculture, industry and domestic users, the scope for further expansion in irrigation is limited in many countries.
- There is strong competition between agriculture and other sectors that depend on water, leading to over-exploitation, and exacerbated by poor water management. Water scarcity is aggravated by poor land use, climate change, pollution and rising food and fuel costs.
- The recent trend of 'land-grabbing' by foreign countries and international companies, who lease or purchase land beyond their borders can badly hurt small-scale farmers. Local communities and individuals lose access to land and water that they previously used for farming, threatening their livelihoods and leaving them landless and dispossessed. Poor smallholders with insecure land tenure are particularly vulnerable.

Ethiopian farmers where agriculture is the foundation of the country's economy and makes up a significant portion of the country's GDP. Photo: Umberto Labate, UNDP

- Improving the efficiency of water use in agriculture will be critical to coping with the growing water scarcity and to improving agricultural production.
- Agriculture is a major polluter of water and is seldom held accountable for the damage that it causes. Water pollution occurs when water used for agriculture is returned to rivers or groundwater polluted with salts, fertilizers and pesticides, livestock manure, soil sediments and other contaminants such as veterinary products. These pollutants cause harm to aquatic ecosystems, commercial and marine fisheries, farms and industry. They also affect access to clean water for domestic use and subsistence farming and raise water treatment costs for cities and towns.
- Women and children are particularly affected by water pollution due to high contact levels during water collection, vulnerability during pregnancy and the high susceptibility of children to pollutants such as nitrates.

[26] FAO, 2010. 'FAO at Work 2009–2010: Growing food for nine billion'. Food and Agriculture Organization of the United Nations, Rome.

- Climate change is expected to exacerbate the impact of agricultural pollution through increasing the mobility of sediment loads and contaminants due to flooding and reducing the dilution of pollution due to droughts.
- The challenges of agriculture cannot be met without using a gender approach, particularly if the four aspects of IWRM – environmental sustainability, economic efficiency, social equity and water governance – are to be addressed as well.

Women and agriculture

Women make up 43 percent of the agricultural labour force in developing countries.[27] In sub-Saharan Africa, women produce 80 percent of the food grown.[28] In spite of this, agriculture and water policies often do not respond to the needs of women farmers. As a result, they face constraints and lack the resources necessary to raise agricultural productivity.

- Another limiting factor to women's productivity is that men generally control access to resources, such as land and water. They are more likely than women to make decisions about land acquisition, crop choice, technologies, pesticides, fertilizers, hiring labour, marketing or consuming the harvest and the use of farm income. Men also tend to dominate leadership positions in community and farming associations, making it less likely that those groups will be concerned with the needs of women farmers. Women have less capacity to adapt to the effects of climate change than do men, mostly because they have limited access to assets and productive resources. When crops fail due to harsh climatic conditions, it is easier for men to search for employment elsewhere, leaving women behind to struggle.
- Gender norms, prejudices and taboos can reduce women's scope for managing agriculture. Often women are not allowed to interact with 'unknown' men for trade, extension services or inputs. In addition, in many societies, women have restricted mobility, which makes it impossible for them to access markets for their produce.
- Formal credit institutions – mostly run by men – tend to discriminate against women entrepreneurs and farmers, forcing them to rely on micro-finance institutions for loans. The current economic crisis has drastically limited the funds available to these institutions, with the result that borrowers are forced to take loans from informal moneylenders, who charge extremely high rates of interest. Unable to afford labour or equipment, poor farmers are reduced to subsistence farming. Yet subsistence is not guaranteed. Given rising fuel costs, many farmers can no longer run their irrigation pumps, increasing the chance of crop failure. This, compounded by a major drop in remittances from family members working in high-income countries, has had a significant impact on the livelihoods of vulnerable groups.
- Women farmers rarely have equal access to water and thus are the first to be affected in times of water shortage.
- In most countries, water allocation for agriculture is linked with land ownership, yet in many places women have few or no rights to land. Even when the right is granted, guarantees may be flimsy and reallocation may have overlooked gender imbalances.

[27] FAO, 2011. The State of Food and Agriculture 2010–2011. Women in agriculture: Closing the gender gap for development. Food and Agriculture Organization of the United Nations, Rome

[28] Garcia, Z., Nyberg, J. & Owaise Saadat, S., 2006. 'Agriculture, Trade Negotiations and Gender'. Gender and Population Division, Food and Agriculture Organization of the United Nations, Rome.

Case study: Exploring the links between rural women and water management in South Africa

In Limpopo, Kwazulu-Natal and Eastern Cape provinces, a consortium of organizations developed eight training courses for members of water users associations. Links between participants and the community, development organizations and local government were actively encouraged as a means to establish a network that stretched beyond the boundaries of water resources management. The first modules focused on building the capacity of women to speak up and participate in meetings and decision-making alongside men. The technical aspects of water resources management were dealt with only after the women were confident enough to publically engage with the men.[30]

Case study: Making participatory irrigation development benefit women in the United Republic of Tanzania

In the IFAD-supported Participatory Irrigation Development Programme (1997-2007) in the United Republic of Tanzania, farmers were encouraged to take responsibility for irrigation development so that schemes reflected their needs and not those of planners. Water supply schemes were built for multiple uses besides irrigation so as to address women's concerns about water availability for domestic uses. Thus, shallow tube-well schemes were constructed to provide water for horticultural crops, rice seedling nurseries and domestic use. This particularly aimed at reducing workloads by reducing the time women spent fetching water for domestic use.

The proportion of women with plots and membership in Water User Associations was over 30 per cent, and women were producing vegetables for both food and income. Women managed shallow wells and benefitted from the time saved in water collection. Some took leadership roles in WUAs and district councils and participated in savings groups and credit associations.[31]

The benefits of a gender-sensitive approach to agriculture

GREATER EFFICIENCY

- **Targeted management support.** Efficiency of water use in agriculture can be increased through a process that uses analysis and participatory approaches to identify gender differences in the management of water and ensures that the interests and experiences of both women and men are represented.
- **Managing demand rather than supply.** Recognising the role that women play in the construction, operation and maintenance of formal and informal irrigation systems is the first step towards reducing water losses and increasing productivity. Information and training for men and women about water saving

[30] Ackerman, C., Nortje, A., Belcher, T. & Ngwenya, R., 2009. 'Lessons from South Africa: Exploring the critical link between rural women and water resources management', http://genderandwater.org/en/gwa-products/knowledge-on-gender-and-water/articles-in-source-bulletin/lessons-from-south-africa-exploring-the-critical-link-between-rural-women-and-water-resource-management-1 (accessed 17 June, 2014).

[31] Wahal, R., 2007. 'Gender and Water: Securing water for improved rural livelihoods: The multiple-uses system approach'. International Fund for Agricultural Development, [Rome].

Case study: Gender aspects of urban agriculture in Mexico City

Despite the fact that women are the principal actors in urban farming in Mexico, their contribution has rarely been recognized. The Social Ecology Promotion Group tried to protect the environment and to improve the livelihoods of its women members through a project focused on the production of vermin-compost and medicinal plants. It was a major challenge for the women to find the time to participate in group activities and carry out household chores and hold down a paid job, all at once.

It became clear that the project would need to be flexible and open, seeking to minimize the working hours of women, emphasizing training and generating resources for the project and its participants. The experience demonstrated that respecting women's continuing commitments to work and family is the best way to collectively meet a common objective.[32]

technologies can help to improve efficiency of water use.

- **Better land and water management.** Women's considerable knowledge of seeds and crops that demand less water can make a valuable contribution to water conservation.

BETTER PROTECTION OF WATER RESOURCES

- **Enhanced watershed protection.** Production and water-efficient agriculture relies on the capacity of the soil to retain water. The involvement of women and men can enhance efforts to restore and protect watersheds by drawing on traditional knowledge and labour from both.
- **Reduction of water pollution.** Avoiding the excessive use of pesticides and fertilizers in favour of a shift to natural methods of pest-control requires cooperation and training of both women and men farmers.

IMPROVED SOCIAL AND ECONOMIC DEVELOPMENT

- **Recognition of disparities.** Higher agricultural productivity and a fairer distribution of benefits are closely associated with access to resources. A gender-sensitive analysis of farming systems can help reveal inequities in the allocation of water resources, land, credit, commercial linkages and agricultural knowledge.
- **Recognition of 'women's' crops.** So-called minor food crops include highly nutritious vegetables, fruits and root crops, which are grown on a small scale by women, mainly for use at home. Women also keep poultry and small livestock for the family's use. Overlooking these 'women's crops,' which are important for the health of the family, risks that agricultural extension services will promote their replacement by cash crops.
- **Successful projects with shared benefits.**

Although women and men perform complementary roles in agricultural systems, their tasks are often determined by their gendered roles.

[32] Torres Lima, P.A., Rodríguez Sánchez, L.M. & Garcia Uriza, B., 2001. 'Mexico City: The integration of urban agriculture to contain urban sprawl', in: Growing Cities Growing Food: Urban agriculture on the policy agenda, Bakkar, N., Dubbeling, M., Guendel, S., Sabel Koschelle, U. & de Zeeuw, H. (eds). DSE, Feldafing, pp. 380–381.

Consulting with both men and women in agricultural project design increases the chances of success and ensures that benefits accrue to both women and men.

- **Prevention of conflicts.** Involving women and men in upstream-downstream decisions about water management for agriculture increases the likelihood of preventing water conflicts, settling differences peacefully and building trust.
- **Safe water reuse to improve urban food security.** Women play a crucial role in urban and peri-urban agriculture, which often uses untreated wastewater for irrigation. It is therefore vital to involve them in the search for affordable solutions that allow the treatment and safe reuse of wastewater.
- **More effective response to economic crises.** Pro-poor gender-sensitive financial stimulus packages that direct funding to resources (water, inputs, credit) for women farmers will increase food security and reduce the national dependency on food imports, thus addressing the balance of payment deficit.

Getting it done

Realizing the benefits of a gender approach to agriculture requires action in three areas:

- legal framework and policies;
- institutional arrangements;
- management instruments.

LEGAL FRAMEWORK AND POLICIES

Laws and policies related to agriculture and water need to ensure the equitable distribution of agricultural benefits and wiser water use.

Analysis

- Conduct a gender analysis of farming systems to determine the existing position and status of women and men farmers.
- Assess how changes in agricultural laws and policies will affect women and men from different social groups.
- Gather hard evidence (numbers and case studies) on how the global economic crisis is affecting the poorest men and women farmers.

Equitable rights

- Advocate for legal recognition of women's right to own land. Legal reform can address gender inequities in inheritance systems and assure that mechanisms for land tenure enforcement are accessible to women.
- Advocate for women's water rights, as well as mechanisms to grant equal entitlement and the protection of those rights.

Policies to reduce gender inequity in access to key resources

- Advocate for equal access to credit by men and women. Special policies can enable women to access loans through a combination of microcredit and entrepreneurial training.
- Advocate for extension services and training for women, who receive only five percent of all agricultural services.
- Promote the right and urgency of women's equal involvement in structures and mechanisms that allow citizen participation in water decisions.

Crop insurance schemes for women farmers will help to protect and promote safeguards against the effects of financial crisis, climate change impacts and natural disasters on crop cultivation.

- Design crop insurance schemes for women farmers and promote safeguards against the effects of financial crisis, climate change impacts and natural disasters on crop cultivation.

INSTITUTIONAL ARRANGEMENTS

Gender audit

- Conduct an internal gender audit of your own institution to assess the effectiveness of gender approaches in your day-to-day work.

Capacity development

- Train technical and management personnel in gender and participatory methods, with a focus on practical issues that are relevant for local agriculture.

Equal opportunity staffing

- Appoint women staff to both technical and managerial roles.
- Appoint more female rural extension workers to facilitate communication and training for women farmers.
- Promote equal salaries and professional opportunities for women.

Monitoring and evaluation

- Monitor and evaluate sector/institutional performance on gender and water issues. Link this information with agricultural land use information.
- Introduce gender-disaggregated data into the sector, including monitoring of participation (active and passive).

Gender-sensitive budgeting

- Ensure an adequate budget for efforts to improve gender imbalances in the agricultural sector. Give priority to measures that may improve water use efficiency and tackle poverty.

Case study: Rural women learn modern irrigation technology in China

Kuaiqiao Village is located in Qingtongxia, one of the oldest irrigated districts in the Ningxia region of China. Irrigation depends on the Qingtongxia Reservoir, which gets its water supply from the Yellow River. Due to climate change, the flow of the Yellow River has become uneven, resulting in both floods and droughts. If the region faces water scarcity during irrigation seasons, the productivity of the crops is directly affected.

Many men in the district have left the village to seek job opportunities in big cities, leaving behind their wives, children and elderly relatives. In addition to their traditional responsibilities women have had to take on farming and the climate change related problems that come with it. Yet because of deeply entrenched cultural perceptions, they are typically excluded from decision-making on agricultural issues.

In response, UN Women designed a project to enhance the role of women in water management for mitigating and adapting to climate change. The project is funded by AusAID and is aimed at empowering rural women and men in Qingtongxia by equipping them with advanced irrigation technology and bringing in local experts, such as professors from the China Agricultural University and China Irrigation and Drainage Development Centre, to train them in its use.[33]

[33] UN Women, 2012. 'Rural women learn modern irrigation technology in China', http://www.unwomen.org/2012/03/china-rural-women-learn-modern-irrigation-technology/ (accessed 17 June, 2014).

OPERATIONAL LEVEL

Provide gender-targeted programmes

- Promote minor food crops to improve the nutritional status of the family and provide a seasonal income.
- Involve women and men in all aspects of agricultural development projects with water-related activities.

Provide women with productive resources.

- Promote actions to give women the same access to productive resources as men. According to FAO, this would increase yields on their farms by 20-30 percent, reducing the number of hungry people in the world by 12-17 percent.

Case study: Enhancing gender relations in the vegetable value chain in Svay Rieng, Cambodia

A thorough gender analysis helped a farmers' association to better address the needs of their members. SNV (Netherlands Development Organisation) provided support to the Cambodian Farmer Association Federation of Agricultural Producers (CFAP) for training and capacity development activities designed to address the roles that men and women play in agriculture, taking into account their respective strengths and contributing to sustainable impact at the household and community level. The practical challenges faced by women at the household level, as well as in leadership positions, were also taken into consideration in order to foster women's involvement and develop their leadership skills.[34]

[34] Sereyrith, L., 2012. 'Enhancing Gender Relations in the Vegetable Value Chain in Svay Reng, Cambodia'. SNV, [The Hague].

Chapter 5

Environment, climate change and waste management

KEY MESSAGES:
THE POOREST AND MOST VULNERABLE ARE MOST DEPENDANT ON THE ENVIRONMENT FOR SUSTAINING THEIR LIVELIHOODS

CLIMATE CHANGE DISPROPORTIONATELY AFFECTS WOMEN

Environmental challenges

Environmental sustainability refers to the on-going capacity of natural systems to support life. Within the context of IWRM this means a healthy water cycle, adequate water for nature, and minimal water pollution. A self-sustaining, healthy environment helps to regulate water flow and quality within all ecosystems.

AS COMPETITION FOR FRESHWATER INTENSIFIES, NATURE LOSES OUT

Ecosystems suffer wide and often irreversible changes when water is in short supply, or of poor quality, creating conditions that reduce their natural ability to purify, store and generate water.

Many ecosystems are endangered by human activity, reducing the capacity of the environment to support life.

Poor rural families often depend directly on the environment, for food, water, shelter, farming and grazing livestock. More than 90 percent of the world's 1.1 billion poor rely on the environment for subsistence. Women and children often gather fruits and roots, while men hunt and fish.

Effective IWRM is needed to manage water resources sustainably and ensure long-term water availability. These efforts must include integrated actions to protect ecosystems and ensure environmental integrity.

HUMAN ACTIVITY CAN DAMAGE ECOSYSTEMS

Access to fresh water is vital for the economic prosperity of cities and the survival of citizens. In many developing countries, the development and improvement in basic urban service delivery has not kept pace with the high rate of urbanization. The result is inadequate access to safe drinking water and sanitation as well as the pollution of natural waterways.

Forests are lost to urban sprawl, and cut for firewood and housing materials and to make space for home gardens and crops. With watersheds no longer protected by forests, their capacity to supply and clean water is lost, further widening the urban water gap.

The livelihoods of poor men and women depend upon environments that are regenerative and support life.

At a global level, job losses in some sectors, and the rising costs of food and fuel have increased inequalities and lowered standards of living for those who depend on the natural environment for their livelihoods. Women and children are particularly vulnerable, especially in Africa. Poor people are often forced to adopt coping strategies that over-exploit the environment (e.g. overfishing in protected waters, unsustainable cropping practices that lead to soil erosion).

At the national level, reduced foreign aid and falling tax revenues mean that governments and international institutions like World Bank and the International Monetary Fund curtail investments in sectors like public water supply, sustainable waste management, health, and education, whilst prioritizing industrial production. National governments' policies to deal with the crises are gender blind, and increase the competition between industries for limited water resources, contributing to water pollution and environmental degradation.

At the individual/household level women have increasingly less time for domestic waste (water) management, wetland protection, tending home-gardens and community reforestation – with negative implications for the local environment.

ENVIRONMENTAL DEGRADATION

Powerful groups, composed mostly of men, cause the majority of environmental damage. Such groups have the greatest potential for devastation, with systematic and large-scale exploitation and industrial transformations of the environment. For example, logging reduces water retention, causes erosion and siltation, and can contribute to landslides. Over-consumption

Case study: Women as positive agents of change in Nigeria

The Niger Delta is one of the world's largest naturally resource-rich areas, but it has suffered through environmental and human rights abuses, including oil spills, gas flaring and destruction of ecosystems. Nigerian women mobilized themselves at the village level into a social movement to protest against transnational oil companies, as part of a world movement to combat ecological destruction and corporate irresponsibility.

Most of the natural gas in the region was being burnt by gas flaring in an effort to cut maintenance costs. As a result, more gas was being burnt here than in any other part of the world, and Nigeria's greenhouse gas emissions were higher than those of the entire sub-Saharan region. In 2006, the protests led to a ruling by the Nigerian courts that gas flaring violated citizens' constitutional rights to life and dignity, and a court order to end the practice was put in place.[35]

[35] Habtezion, Z., 2011. 'Gender and Climate Change Africa', Policy Brief 1 – General Overview. (Working draft). GGCA – Global Gender and Climate Change, United Nations Development Programme, s.l. http://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/Gender%20and%20Climate%20Change%20Policy%20Brief%201%20Final.pdf (accessed 17 June, 2014).

among wealthier populations worldwide causes far greater pollution than poor people living in contaminated surroundings.[36]

Poverty aggravates the impact of environmental degradation within communities. Small-scale and subsistence fishermen and women are deeply affected by water ecosystem damage. In many areas, marine fisheries are recording lower yields. In 2011, IUCN estimated 35 percent of the world's freshwater fish were threatened with extinction. Women, usually the food gatherers along coastal shores or in mangroves, are more affected by damage to coastal areas.

SICK WATER

Population growth, urbanisation and rapid industrialisation, and intensifying food production put pressure on water resources and increase the unregulated or illegal discharge of contaminated water within and beyond national borders. 'Sick water' results from the discharge of: domestic effluent, consisting of black water (excreta, urine and faecal sludge) and grey water (kitchen and bathing wastewater); water from commercial establishments and institutions, including hospitals; industrial effluent; storm water and other urban run-off; agricultural, horticultural and aquaculture effluent, either dissolved or as suspended matter.[37] Sick water is a global threat to human health and wellbeing, it affects immediate and long-term efforts to reduce poverty, as well as the sustainability and integrity of some of Earth's most productive ecosystems.

Researchers from UNEP[38] affirm that, globally 2 million tons of sewage, industrial and agricultural waste is discharged into the world's waterways. As a result, at least 1.8 million children under five years old die every year from water-borne disease. It further estimates that 3.7 percent of all deaths are attributed to water-related diseases. More men and women die as a result of polluted water than are killed by all forms of violence, including wars.

The impact of sick water on the wider environment is significant. An estimated 90 percent of all wastewater in developing countries is discharged untreated directly into rivers, lakes and into the oceans (ibid), causing the rapid growth of de-oxygenated dead zones in seas and oceans.

Challenges in dealing with solid waste and wastewater must be approached from a gender perspective, since men and women have different experiences, and needs in this respect. Ultimately, this will boost public health, secure the sustainability of natural resources and create employment in intelligent water management.

[36] www.waterfootprint.org

[37] Rashid-Sally, L. & Jayakody, P., 2008. 'Drivers and Characteristics of Wastewater Agriculture in Developing Countries – Results from a global assessment', Research Report 127. International Water Management Institute, Colombo, Sri Lanka.

[38] UNEP, UNHABITAT, 2010. Sick water? The Central Role of Waste Water Mnagement in Sustainable Development. A Rapid Response Assessment (E. Corocoran, C. Nellemann, B. Elaine, R. Bos, D. Osborn, & H. Sabelli, Eds.) Norway: UNEP and UNHABITAT.

CLIMATE CHANGE

Climate change has emerged as a critical global issue during the last decade. The Intergovernmental Panel on Climate Change (IPPC) has clearly stated that the global climate is changing more rapidly than earlier thought.[39] The effects of climate change are experienced differently by women and men, with poor women, (the majority of the world's poor) most profoundly affected.

Flash floods, water logging/inundation and limitations on freshwater resources, due to extreme weather events affects the availability of water for domestic and productive tasks.

Climate change and extreme weather events

Variations in precipitation, sea level rise and temperature rises are intensifying the hydrological cycle around the globe, giving rise to extreme weather events and exacerbating salinity ingression into both water and soil. This in turn leads to flash floods and waterlogging, and impacts freshwater resources, reducing the availability of water for domestic and productive tasks. Vulnerable groups – mostly women – are affected disproportionately, because of their limited access, control and ownership over resources; unequal participation in decision and policy making process; lower incomes and levels of formal education, and extraordinarily high workloads.

Climate related disasters affect women's livelihoods and safety

A report (Women at the Frontline of Climate Change: Gender Risks and Hopes) released at the UN Climate Change Conference (COP17) in Durban, South Africa, highlights how organized human trafficking, especially that of women, is emerging as a potentially serious risk associated with climate-related disasters; as floods or landslides disrupt social safety nets, leaving more women isolated and vulnerable.

In Nepal, estimates based on emerging data from anti-trafficking organizations, such as Maiti Nepal, suggest that trafficking may have increased from an estimated 3000 – 5000 people (mostly women, as well as children and youth of both sexes between the ages of seven and 21) in the 1990s to current levels of 12,000 – 20,000 per year. Approximately 30 percent of the victims end up in forced labour and 70 per cent are exploited in the sex industry.[40]

The data suggests that human trafficking increases by around 20 to 30 percent during disasters. The International Criminal Police Organization (INTERPOL) has also warned that climate disasters may increase the exposure of women to trafficking as families are disrupted and livelihoods are lost.

[39] IPCC, 2007. Climate Change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden, P.J. & Hanson, C.E. (eds). Cambridge University Press, Cambridge.

[40] UNEP, 2011. 'Women Most at Risk from Climate Disasters, Says UN Report' UNEP News Centre. http://www.unep.org/newscentre/default.aspx?DocumentID=2661&ArticleID=8975

Desertification, droughts and floods

The impacts of climate change on precipitation are projected to cause more extreme flooding and droughts, resulting in pollution of freshwater resources and increased water scarcity. Rising sea levels will intrude on coastal freshwater resources.

The consequences of desertification and increased frequency and severity of droughts and floods are not constrained by watershed or international boundaries. They can cause tremendous damage to economy and ecology, and pose risks to lives and livelihoods, particularly for vulnerable groups, including poor women.

Deltas and estuaries

Deltas, low-lying coasts and estuaries will suffer the most severe impacts from saline water intrusion, siltation, land loss, and deceleration of wetland renewal. Changes in salinity levels will affect the biodiversity of wetlands and mangroves, reducing the productivity of those areas. Poor men and women living in these areas will become climate refugees. Women, as household water managers, face the immediate impact of the freshwater crisis and salinity ingress.[41] Moreover, the movement of rural and coastal communities into urban areas as their own lands become inhabitable leads to ever higher numbers of people in informal settlements being exposed to multiple climate impacts, including flooding, heat waves and disease.[42]

Women have devised coping strategies, for example, they often adopt integrated or floating farming when water and ground salinity levels rise.

Focus on climate change mitigation is prioritised over adaptation strategies and water-related issues

The links between gender, climate and water have received little scientific or political attention. Climate change debates primarily focus on mitigation efforts i.e., reduction of carbon and other greenhouse gases emissions; alternative energy sources, and on government and institutional actions.

Insufficient attention has been paid to climate change adaptation strategies and actions taken by the poor to prepare for and protect themselves against climate change impacts. Women's roles are not adequately recognized in climate change adaptation efforts, either in national and global climate change negotiation talks, or in the context of climate change-influenced natural disasters.

Gender-sensitive adaptation requires an understanding of existing gender inequalities, and of the ways in which climate change can exacerbate these inequalities. Conversely, it also requires an understanding of the adaptation patterns in which

Urban dwellers living in poverty, in poor or informal settlements without basic infrastructure and services are often at the greatest risk from flooding.

[41] GTZ, 2005. 'Linking Poverty Reduction and Disaster Risk Management'. Deutsche Gesellschaft für Technische Zusammenarbeit, Eschborn. http://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDYQFjAA&url=http%3A%2F%2Fwww.dkkv.org%2FDE%2Fpublications%2Fressource.asp%3FID%3D154&ei=GBNEUsrlO4aw7Abog4DgBA&usg=AFQjCNFoIN8cjItW30r2sPx2nFZ1Glay7w&bvm=bv.53217764,d.ZGU (accessed 20 June, 2014)

[42] RFA, 2013. 'Climate Change Conjures up 'Alarming' Scenarios in Southeast Asia'. Retrieved September 25, 2013, from Radio Free Asia: http://www.rfa.org/english/commentaries/east-asia-beat/climate-change-07022013165938.html

Case study: Climate change adaptation and gender-sensitive strategies in Jamaica

In rural Jamaica many people have to do without potable water, adequate sanitation and hygiene, which has implications for their health and wellbeing. The changing climate is aggravating this situation further. In the villages Somerset and Mile Gully researchers collected data to find out more about the impact of climate change, from a gender perspective, from first hand accounts.

The study explores the different jobs and tasks that men and women have, based on the gender division of labour, and how climate change may alter this pattern and bring different risks and opportunities. Differences in men's and women's access to resources (for example water, land and social networks) and the different options and possibilities for coping with the effects of climate change were also studied.

The study concludes that development planners must take account of the reality that women may have: less access to resources; a double burden of reproductive and productive work, and less access to power and decision-making. The culture of exclusion of women from areas such as construction and other skills which may be needed after a disaster, undermines women's life chances and requires adequate gendered attention. These considerations should be integrated into climate change adaptation strategies that are linked to water and sanitation.[43]

these inequalities can intensify the impacts of climate change for all individuals and communities.

Poor urban populations are increasingly at risk from storms and floods

A large and growing proportion of those most at risk from climate change live in urban areas, largely in low and middle-income nations. There is a significant increase in the number of urban dwellers living in poverty, in informal settlements without basic infrastructure and services that could protect them from environmental health hazards and disasters. Worldwide there has been a rapid growth in the number of people killed or seriously impacted by storms and floods in urban areas, particularly in coastal towns and cities, a large number of who are women and children.

Local governments should implement gender-sensitive local adaptation measures, such as improvements in housing and living conditions, and provision for infrastructure and services. Successful, well-governed urban areas could greatly reduce climate-related risks for low-income populations.

Key integral factors of gender in climate change

- **Climate change affects women and the poor disproportionately.**
- **Although the link between climate threat and gendered impact is recognized, very limited gendered analysis of climate vulnerabilities and adaptation strategies has been undertaken.**
- **Gender-sensitive adaptation practices and policies should be prioritised over mitigation.**
- **Extreme weather events exacerbate water stress and put more women at higher risk of water poverty.**

[43] UNDP, 2009. 'Case Study on the Impact of Climate Change on Water and Sanitation in Jamaica'. United Nations Development Programme, Barbados.

Women, environment and climate change

- Poor, rural women are most affected by environmental degradation due to water shortage, and the effects of climate change. As locally available natural resources become scarcer, women are forced to travel longer distances to collect these necessities, facing danger, and increased economic and social stress.
- Resulting from their work as collectors of fuel wood, water and forest products, women have extensive local knowledge which needs to be tapped when developing policies and practices for environmental management, as well as for adaptation to climate change. Women's skills are part of the solution to the problem that affects them most.
- Economic crises deepen pre-existing gender inequalities, including the under-representation of women at all levels of economic decision making. At global, national, and household levels, processes put in place during economic crises affect people's interactions with the environment, and can lead to over-exploitation of water for productive activities, domestic use, consumption, and sanitation.
- Despite their knowledge and roles within communities, women's contribution to water resource management is regularly undervalued and ignored. This makes them uniquely vulnerable to environmental degradation.
- Women and young children remain disproportionately affected by environmental hazards, which are among the major causes of global death and disease, especially in less developed countries.[44]
- As primary water collectors, women are directly affected by using 'sick water'. When their access to clean water for drinking, cooking and sanitation becomes more difficult and time-consuming, poor women have less time for productive work and are forced into more vulnerable circumstances, and are less able to contribute financially to their families.
- Where salt-water intrusion occurs as a result of sea level rise and/or low river flow, or in times of drought, women are forced to travel to collect safe drinking water. They also consume a smaller quantity of water per day just to avoid repeated journeys, which adversely affects their health. Additionally, men may be compelled to seek opportunities for work further away from home, and their out-migration further increases the burden on women.
- Women in locations vulnerable to climate change are more likely than men to lose their lives during natural disasters, due to lack of basic skills like swimming or cultural factors that restrict the mobility of women.
- Climate change impacts exacerbate the inequalities between women and men's relationship to water.

Early warning information systems must target women

Following the colossal cyclone and flood in Bangladesh in 1991, almost five times as many women died as men (the total number of deaths was 145,000). Early warning information was transmitted by men to men in public spaces, but this information was rarely communicated to women and the rest of their families. Consequently women, who are not permitted to leave the house due to cultural dictates, perished while they waited for their relatives to return home, to move them to places of safety. Their chances of survival were significantly reduced by the fact that few knew how to swim and others were entangled by their clothing while trying to swim against the strong wind and severe storm surge.

[44] UN, 2010. The World's Women 2010, Trends and Statistics. United Nations, New York. http://unstats.un.org/unsd/demographic/products/Worldswomen/WW_full%20report_color.pdf (accessed 20 June, 2014).

- Several factors can make adaptation more difficult for some women, including lack of formal education, poverty, discrimination in food distribution, food insecurity, limited access to resources, exclusion from policy- and decision-making institutions and processes and other forms of social marginalization.

Benefits of the gender-sensitive approach to environmental sustainability

A gender approach can contribute to the protection and restoration of the environment, and prevent further damage to watersheds. Such an approach can also benefit water supply, sanitation, agriculture and the socio-economic, cultural and political development of communities.

PROTECTION OF WATERSHEDS

- **Effective solutions**: Women and men view watershed protection differently. Hence, more appropriate and acceptable solutions can be devised if watershed management is inclusive, sensitive and responsive to gender. Women and men are becoming aware that cooperation and sharing of skills and knowledge to restore forests, grasslands, wetlands and other natural features work best to protect them in the long term.

Innovative strategies need to be designed for special areas such as endangered coasts, mangrove ecosystems, and wetlands.

- **Improved livelihoods:** Women and men can mutually participate and benefit if knowledge and information regarding land and ecosystem management is easily accessible, and where communications target both sexes equitably.
- Addressing wastewater or sick water challenges with a gender approach can reduce the hazardous pollution that leads to water related illness and diseases. Without clean water, there is no chance of breaking out of the cycle of poverty.
- An efficient approach to dealing with wastewater can provide opportunities for green employment for both men and women.

RESILIENCE TO CLIMATE CHANGE

- Gender analysis, if based on what women and men themselves have to say, helps to find ways to mitigate the risks of climate change, and reduce vulnerability, highlighting opportunities to enhance positive outcomes for men and women.
- Women's empowerment is an integral feature in building climate resilience. In many places, forced by urgency, women have managed to set an example of empowerment through leadership development within their communities.
- Women can play a leading part in sustainable water management as they have valuable knowledge, skills and strategies from their key roles in agriculture, food security, household livelihoods and labour productivity. They are often at the front line of adaptation to climate change at the local level, particularly as men increasingly migrate out of water-stressed areas in search of work.
- Investing in low carbon, resource efficient green technologies, water harvesting and fuel wood alternatives can strengthen climate change adaptation and at the same time improve women's livelihoods, if a gender approach is applied.
- Vulnerability assessments related to floods, droughts and other climatic impacts will benefit from the views and contributions of women and men. Recognising the fact that women and men

Case study: Impacts of climatic variability on women in South Africa

Focus group discussions, role-play, life histories and key informant interviews were all used to understand climate variability in Kwazulu-Natal province, the most populous and poverty-stricken eastern coastal province of South Africa.

The results suggest that women bear the greatest burden of coping with climate change impacts. Men's workloads were not found to increase. Instead, they suffer more mentally as they find it hard to cope with unemployment.

This study shows that the impact of climate change coupled with factors such as unemployment, HIV/AIDS and poverty force women and men to come up with new divisions in their tasks and responsibilities in order to adapt. For example, women's income earning capacity creates a need for their equal participation in decision-making processes at the household level.

The study affirms that women are knowledgeable and innovative with regards to coping with the impacts of a changing climate, and they play a vital role in supporting households and communities to adapt. The study strongly recommends that issues of gender be addressed in climate change management.[45]

are vulnerable in differing ways, and to varying degrees, contributes to better project design, provision of appropriate technical assistance and services, effective risk management strategies and improved early warning systems.

- Long-term negative impacts can be reduced if strategies for coping with extreme climate events are tailored to different population groups, and meet the needs of women, children and men.

IMPROVED SOCIAL AND ECONOMIC DEVELOPMENT

- The empowerment of women is vital in building climate resilience that emphasizes the diversification of economic and other opportunities based on the needs and interests of both sexes.
- Women's groups can serve as a powerful springboard for building resilience and adaptation measures within communities. Such groups can support water managers in their interventions.
- Improving local ownership and responsibility for natural resources can allow the rural poor and women to contribute to good ecosystem management and reap benefits.

Getting it done

In order to maximise the potential benefits of a gender-inclusive approach, action must be taken in three areas:

- The legal framework and policies concerning water, land, and the environment should be reviewed and amended to reflect gender considerations.
- Institutional structures within the water and environmental sectors should mainstream gender.
- Review and updating of instruments and incentives for appropriate management of water, land and ecosystems.

LEGAL FRAMEWORKS AND POLICIES

Analysis

- Conduct analyses of rural development, land use, water and environmental laws and policies to assess impacts on women's and men's lives.

[45] Babugura, A., 2010. 'Gender and Climate Change: South Africa case study'. Heinrich Böll Stiftung, Cape Town.

- Conduct post-economic crisis gender and poverty audits of financial incentive packages developed to alleviate the impact of the economic crisis on the most vulnerable groups.

Honour existing commitments within gender and environment

- Encourage the empowerment of women and poor men in environmental decision-making, through their active integration in every sector, level, and task.

Equitable rights

- Enable access for all people to environmental goods and services including water and land rights. Seek mechanisms to protect those rights and assure easy access to justice in case of dispute.

Participation and decentralization

- Enable gender-sensitive and meaningful stakeholder participation as a principle for watershed management.
- Advocate for responsible decentralization to empower local authorities in water management. Seek explicit mechanisms to involve women in the process.
- Ensure women's active and equitable participation in policy and decision-making processes at local, national and international levels.
- Campaign for gender-responsive programmes in climate poverty eradication strategies.

Women participating in UNFCC-talks. Photo: UNFCC

- Educate people on gender-sensitive, socially and culturally appropriate wastewater management that is economically and environmentally viable.

Design and implement targeted strategies

- Women's responsibilities within households and communities, and as stewards of natural resources mean they are well placed to develop strategies for adapting to changing environmental realities within specific ecosystems and cultural settings.

INSTITUTIONAL STRUCTURES

Analysis

- Assess institutional prioritisation of gender issues in day-to-day work, as well as commitment within budgets.
- Mainstream gender budgeting, auditing and financing.
- Identify livelihood opportunities for both men and women within approaches to wastewater financing.
- Encourage investment by the private sector in improving wastewater treatment processes, including natural water purification systems.

Capacity development in gender and environmental issues

- Train managerial and technical staff in gender and participatory methods.
- Undertake capacity development of grassroots women's organizations, NGOs, and networks, to assist women in developing and implementing their own climate related actions.
- Build in-country institutional capacity within central and local government bodies, ministries and agencies to enable them to address the gender dimensions of climate change in their own analyses and response plans.
- Raise awareness of gendered vulnerability and impact of climate change and corresponding adaptation needs.

Gender responsible staffing

- Actively seek and appoint qualified women into technical and managerial roles, promoting equality in salary and opportunities.
- Develop appropriate gender-balanced staff structures at the local level to implement watershed management programmes with gender-sensitive, participatory, pro-poor actions.

Information and data

- Design and collect gender-sensitive and environmentally sound indicators to demonstrate the value of gender approaches to authorities and society.
- Ensure that gender-disaggregated data are collected: such data illustrate differential impacts on women and men, and also differentiated contributions of women and men.
- Strengthen monitoring and evaluation systems to assess and analyse the effects of gender-sensitive approaches to climate adaptation processes.

Ensure the delivery of existing commitments

- Gender experts and women's networks can support water managers to integrate gender into their programmes.
- Develop education and training materials and workshops.
- Ensure gender balance in meetings.

Alliances and participation:

- Develop a mechanism for building alliances among like-minded organizations and institutions active in adaptation programmes. Ensure women's voices are heard in all spheres.
- Widen the inter-institutional discussion and collaboration with effective gender participation to include the treatment and re-use of human, household, agricultural and industrial wastewater runoff.
- Participation of real stakeholders is crucial, for example in the design of research and action focusing on women's concerns, experiences, priorities and needs.

INSTRUMENTS

- Water users must have easy access to targeted information and communications. Early warning systems for extreme weather events can help local women and men to be prepared. A variety of different mechanisms might be needed to reach all groups within a village or neighbourhood.
- Ensure gender-balanced participation in stakeholder discussions on climate change adaptation processes and climate financing.
- Ensure gender-sensitive and smart climate initiatives: women's rights, socio-economic status and voice can be strengthened through gender-sensitive and smart development initiatives.
- Ensure adaptation measures are culturally appropriate, socially acceptable, responsive and practical for women's needs. Factors that can assist in gender-sensitive adaptation include: increased access and ownership of water and land; microcredit directed toward women; education, and access to green technology.
- Women can be powerful agents of change. They are the active agents of adaptation in rapidly changing contexts who negotiate, strategize, contest and resist relations, discourses and policies that disadvantage them. They actively interpret, give meaning to, and adapt to global changes in local contexts in ways that are appropriate, sustainable and culturally specific.
- Use IWRM as a tool for adaptation: effective water management with active gendered participation has now being recognized as a key response to mitigate, combat and/or adapt to adverse climate impacts.
- Develop a collectively smarter, gender-sensitive, multi-sectoral, innovative and intelligent approach to wastewater management that incorporates principles of ecosystem-based management.

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