



WHY GENDER MATTERS

A tutorial for water managers

March 2006



WHY GENDER MATTERS

A TUTORIAL FOR WATER MANAGERS

Developed by

CAP-NET

The International Network for Capacity Building in
Integrated Water Resources Management

&

The Gender and Water Alliance

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A reference copy of this tutorial is also available online and as CD at:
<http://cap-net.org>
and
<http://www.genderandwateralliance.org>

FOREWORD

I manage water – why does ‘gender’ matter to me?

We would like to welcome you to this tutorial which is primarily aimed at those people interested in or responsible for managing water resources. We wanted to show how addressing gender will improve efficiency of water use and environmental sustainability. A gender approach will also improve social benefits and equity from use of our water resources.

Browse the tutorial or go into more depth, it is up to you. We have included some of the most useful tools and references for those who decide to convert ideas to action.

Every situation is different and every user is different. We encourage you to adapt the tutorial to your own needs, whether to include your examples, change the language or put in your own pictures. Guidance is given for that.

Tell us about your experience of using the tutorial. We will be pleased to receive copies of versions you adapt or improve for your own use.

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GENERAL CONCEPTS

1



Women harvesting

1. WHY ADDRESS GENDER AND WATER?



Gender approach brings benefits for water, ecosystems and people

Water is probably the most vital natural resource. The bonds between people and water are primal and have a long history that spans both ancient and contemporary cultures. Bonds with water reflect the cultural values and social differences embedded in societies, including gender differences.

There are significant gender differences in use, access and management of water. It helps to explain why some cultures, societies or communities are more successful than others to manage water.

In many cases, gender discrimination can limit the women's and men's chances to access vital water resources, by placing restriction in their autonomy. Attitudes such as, "Women should – or should not – do this and that" or "Men are supposed to do this –but not that", may prevent either women or men action regarding water use, access or management.

These practices often result in unfair and self-perpetuating impacts on the lives of both women and men as it reduces the benefits of development among disadvantaged groups and marginalizes their contribution to society—"no water, no wealth, no well-being". This also explains why some people obtain more benefits or are more impacted from water policies.

Addressing gender and water together acknowledges these imbalances and seeks to ensure that the contributions of both men and women are recognised. To manage water effectively and sustainably, it is important to understand the different roles of men and women and to target action appropriately. Re-examining how women and men manage water will allow us to:

- Share benefits from use of water
- Make progress towards more sustainable use of water; and
- Maximize social and economic benefit from sustainable use of water.

This becomes increasingly urgent in a situation where water is becoming scarcer and competition between users is growing.

2. IWRM AND GENDER

FIGURE 1. IWRM goals



INTEGRATED WATER RESOURCES MANAGEMENT

Dealing with water scarcity, competition for water and pollution, the water manager has to find a way to fulfil the needs and reduce the impacts. The best way to do so is through IWRM.

Integrated water resources management (IWRM) is a process that aims for the sustainable use, management and development of water, land and related resources. It seeks to balance the use of these resources for economic and social welfare with the protection and conservation of water based on sustainable development principles. (GWP 2000). There are 3 elements contributing to the sustainable use of water resources: Economic Efficiency in water use, Social Equity and Environmental Sustainability. (See fig 1)

Environmental sustainability means assuring the capacity of nature to support life. Within the context of IWRM this means a healthy water cycle, adequate water for nature, and less water pollution. Forests and wetlands, among other ecosystems, help regulate water flow and quality. Wise efforts to manage water resources sustainably and ensure long-term water availability must include integrated actions to protect ecosystems and ensure environmental sustainability. On contrary, poor management of water resources will result in largely 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 increase urban and rural livelihood activities. Given increasing water scarcity, the choice as to how each drop should be allocated and managed becomes central to maximizing social and economic benefits and ensuring sustainability. This effort also includes sectoral and cross-sectoral actions for cleaner production, water reuse and recycling recognizing that freshwater is a limited resource, and investment in water projects must be viable.

Economic efficiency also refers to financial sustainability to build, operate and maintain the diverse projects and facilities required to improve water access and assure water quality and quantity over the long-term through cost recovery and payment systems.

Social equity Water is a basic human need. It is also a central part of the basic rights all people are entitled to under the Universal Declaration of Human Rights. When considered in this light, social equity is embedded in actions that support the sustainable management and use of water resources. Social equity requires that a fair share of water benefits and responsibilities be transmitted to women and men, poor and rich, young and old. This means fair opportunities to access, use and control water resources, as well as equitable acceptance of responsibility for the negative side effects produced so as to avoid placing higher burdens on the poor or disadvantaged members of society.

Dealing with water scarcity, competition for water and pollution, the water manager has to find a way to fulfil the needs and reduce the impacts.

The best way to do so is through IWRM.

And... there is strong evidence that water management must take gender into account to achieve IWRM goals.

GENDER AND SUSTAINABLE USE OF WATER

There is strong evidence that the water manager must take gender into account to achieve the goal of sustainable use of water. Below there are few examples of the linkages between gender and the elements of IWRM. Later we move on to discuss how a gender approach can help to achieve these goals.

Gender and environmental sustainability linkages

- Women and men reduce environmental sustainability in different proportion and by different means as they have different access, control and interests. (Environment)
- The impact of flood and drought events weighs heaviest on women because they lack the means to cope with disasters. (Environment)

Gender and economic efficiency linkages

- In many societies women pay for drinking water but have mobility restrictions and payment constraints. Allowing users to pay smaller amounts more frequently and nearer to home makes water more affordable for them. (Water supply)
- Technology choice affects affordability. Consulting female and male users may result in a more acceptable, user-friendly and sustainable service. (Water Supply)
- Poor and women farmers' lack of access to finance prevents



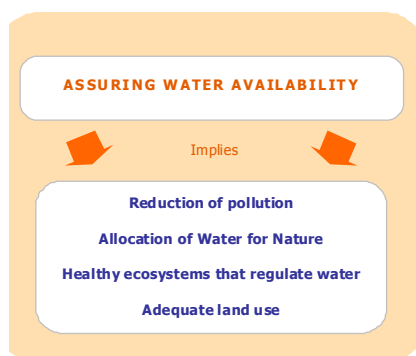
them from developing more prosperous and water efficient agricultural enterprises and limits their participation in agriculture to a subsistence level activity. (Agriculture)

Gender and social equity linkages:

- Powerful groups of society, usually male dominated, can exploit resources more systematically and on a large scale as well as drive industrial transformation of the environment, thus their potential to produce damage is higher. (Environment).
- When water is not supplied by a piped system, the burden of water collection falls on women and children, who must expend a huge amount of time and energy on this activity. (Water supply).
- Women rarely have equal access to water for productive use and are the first to be affected in times of water shortage. (Agriculture).
- Women and children are the most susceptible to water borne disease due to their roles in water collection, clothes washing and other domestic activities. (Sanitation).

3. GENDER AND ENVIRONMENTAL SUSTAINABILITY

FIGURE 2. Sustainable environment and IWRM



Wise efforts to manage water resources sustainably and ensure long-term water availability must include integrated actions to protect ecosystems and ensure environmental sustainability

Achieving environmentally sustainable use of water can be significantly improved by taking a gender approach focused on:

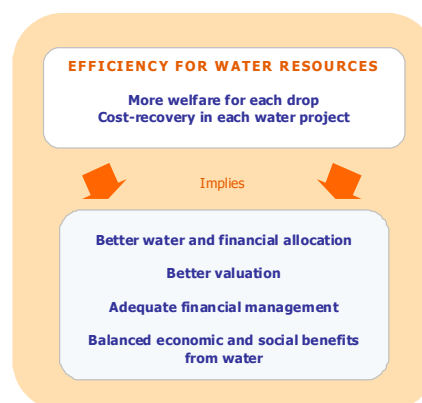
- **Targeted actions:** Women and men use and access water, land and ecosystem resources in different ways. When such differences are properly understood, actions can be targeted to those who have real influence in the issues addressed. For example, men and women contribute to the problem of deforestation in different ways. Major land use changes, and large-scale logging activities and wood use are often linked with wealthy men; minor land changes and local logging are usually undertaken by middle class or poor rural men and women; and wood collection, where trees are seldom chopped, is normally conducted by poor women worldwide. In order to prove effective, actions designed to curtail deforestation should take into account these differences.
- **Creative solutions:** Women and men are the keepers of different indigenous knowledge that has proven beneficial in identifying interventions that are suited to local natural and social conditions. Examples of gender-based knowledge that enables effective solutions include better choices of species to reforest, identification 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 members of a community 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.
- **Healthy environment:** Women's and men's participation facilitates freshwater ecosystem maintenance and protection. Each member of society has an interest in promoting a healthy environment. When these interests are made transparent, it 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 through some sort of agreement. For instance, women in India formed the Chipko Movement when they recognized the link between deforestation and recurring floods and landslides. Through lobbying and pressure, they prevented tree felling and achieved a 10-year ban on logging in the affected area. In Kenya, the Green Belt Movement has mobilized more than 80,000 women to plant more than 20 million trees.

4. GENDER AND ECONOMIC EFFICIENCY

Achieving economically efficient use of our limited water and financial resources requires attention to gender. It enables:

- **Effective investment:** Water infrastructure can be more widely and optimally used, maintained and sustained when women's and men's demands, expectations, experience, involvement and knowledge are considered. Such consideration enables targeted solutions in technology, payment and management systems, and other domains and can result in better use of limited funds, human resources and water.
- **Enhanced cost-recovery:** Recovery of investment in water services can be improved if traditional women's and men's roles in water management are recognized and promoted in an equitable manner. (Box 1)
- **Enhanced ownership:** Communities feel more committed to water projects that properly target gender-specific issues. A 1993 World Bank study of 121 water projects showed that the systems that include users (both women and men) in planning, building and management usually perform better than those that lack participation, at least in rural cases. Gender-sensitive participation was consistently a factor for success in quality of design, quality of implementation, project efficiency, operation and maintenance
- **Conflict prevention:** Conflicts are very expensive, in social, economic and political terms. Consideration of gender in water management may help reduce potential conflicts related to:
 - **Water allocation:** Potential for conflict can be reduced if the impacts of water allocation (some of which are gender specific) are properly recognized early in the allocation process. This allows for the development of targeted mitigation measures and the creation of new allocation schemes.
 - **Water tariffs:** Recognizing the differences in payment ability and understanding who pays the water bill within a community can reduce the potential for conflict and lack of payment. Many studies reveal that women usually pay for water even though their financial burden compared with income is greater than it is for men. A gender sensitive approach enables the creation of better tariff systems that are both affordable and economically sustainable in the socio-economic context of a population.

FIGURE 3. Economic efficiency and IWRM



BOX 1. Enhanced Cost – recovery by considering gender

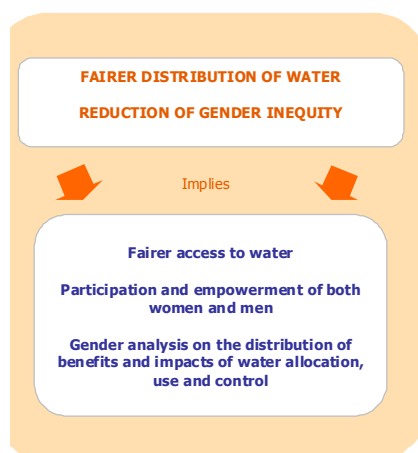
During the 1990's, the Malawi government designed a highly innovative community management system to deliver piped water to low-income households. While technically successful, the effort was economically unsustainable due to problems with fee collection. This issue was resolved by recognizing the men's inability to collect fees effectively 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 collections to women who were able to deliver systematic collection in a timely and less conflictive manner

5. 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 women's and men's welfare and the whole economy. By informing water plans, policies and programs, this knowledge can help reduce inequity.
- **Multiplier effect on welfare:** A Water Aid study showed that \$1 invested in water supply and sanitation brings \$3 to \$34 in benefits. Such benefits can be even better distributed and assured if gender is taken into account. For example, many poor women use a fraction of supplied water in small-scale productive activities that give them new income sources. In agriculture, gender sensitive irrigation can help improve food security and

FIGURE 4. Social equity and IWRM

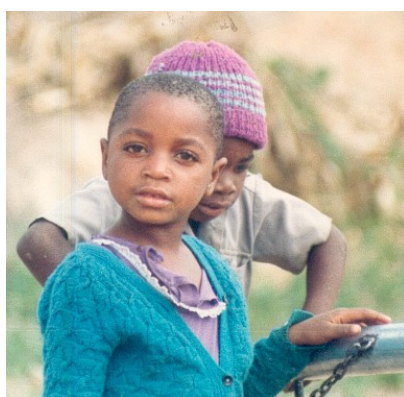


income-generation. In addition to the social benefits produced under these scenarios, better nutrition has a multiplier effect on the economy.

- **Reduction of social cost:** Society, especially women, children and the poor, is paying a huge opportunity cost due to lack of water. WHO estimates that 5.6 billion working days and 443 million schooldays would be gained annually through universal access to safe water and sanitation. Fewer people would die/get ill and women and children would spend less time and energy carrying water. That time and energy could be invested in other productive, domestic and community activities that might benefit people and societies.
- **Reduction of poverty:** 70% of the world's poorest people are women. Women tend to have lower salaries and are more vulnerable to unemployment, even as the number of female-headed households is rising. Gender sensitive water projects can improve targeting of such differences and seek creative ways to reduce the burdens of those who are more vulnerable. In many cases, such projects can provide an alternative source of income.
- **Enhanced management and empowerment:** New IWRM water management systems can perform better by drawing on the experience, knowledge and creativity of men and women. Women tend to manage water use worldwide in an informal way. Consideration of gender balance in water management has at least two positive effects. First, women's and men's expertise is recognized and wisely used. Second, women and men are empowered to contribute to society's welfare in innovative ways.

Creating a beneficial cycle, positive social effects not only enhance water management itself but can also create unique 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.

6. GENDER BARRIERS



Decisions made about water allocation and use produce long-lasting effects on women's and men's lives

Despite all the benefits that a gender approach could bring to water resources management, women still face major obstacles to participating in and benefiting from water resources. In day-to-day practice, water managers often fail to recognize how valuable a gender approach may be and when to use it. The main barriers to adoption of this approach include:

- **Gender blindness:** Many men and women involved in water decision making, policy making or implementation still question the relevance of gender. They fail to recognize differences between men and women with regard to demands, access and control of water resources and capacities.

This perspective obstructs some water managers' ability to better understand and address water issues. The primary obstacle is a traditional point of view that assumes that communities are homogeneous. In reality, societies are not a collection of equal people living in a particular region, but rather a heterogeneous assortment of individuals and groups who command different levels of power, wealth, influence and ability to express their needs, concerns and rights.

- **Gender neutrality:** Governments and citizens tend to assume that all government policies and legislation, and their associated budgets and programs are gender-neutral, even though this is not

the case. When there is no explicit mention and identification of the different roles, responsibilities and circumstances of men and women, boys and girls, rich and poor, the ensuing programs will probably benefit some groups more than others. A lack of differentiation hides differences in the impacts of land and water rights, education, employment, etc. on women and men.

- **Cultural stereotypes.** Many gender stereotypes exist around water and its uses. Some of the most common misconceptions can be seen on box 2
- **Powerless.** Many women, and ethnic, caste or age groups find it hard to speak out about their water problems and needs. Allowing participation in water management will not remedy this situation alone. In the absence of efforts to promote self-confidence and the expression of their ideas, inclusion is far from complete. This requires explicit action from the water manager, who is seldom trained in how to enable an inclusive dialogue on water issues.
- **Tokenism, isolation and policy evaporation.** Although many governments have included gender issues in the water agenda, implementation efforts have been insufficient.
 - In many cases gender is considered a marginal issue, and gender concerns are relegated to separate powerless gender units or contracted gender consultants, making real change impossible.
 - In other cases, water institutions and decision-making processes include women based on quota policies, which fail to empower such representatives to raise gender issues and make a difference.
 - In other instances, implementation of water policies on gender is not evident in day-to-day operations because of a lack of know-how, interest, or commitment on the part of those responsible for implementation.

BOX 2. Some stereotypes that affect wiser water management

Farmers are male. While the proportion and role of women change from place to place, 70% of farmers worldwide are women. Nonetheless, women neither own 70% of the land nor have access to 70% of agricultural water.

Fishers are male. Women and men divide functions in fishing. In many cases, women collect shrimp and shellfish near the coast while men catch fish using boats, nets and other devices. Freshwater fisheries also involve a lot of women's labour in drying, processing, making and repairing nets and fishing.

Men do the work while women care for the family. This misconception neglects the role of men as fathers who may also contribute domestic labour and have a fundamental task as behaviour models. Children learn how to use water according to both the mothers' and the father's examples, and the father's influence grows when boys and girls are older.

7. HOW TO GET ENVIRONMENTAL BENEFITS FROM GENDER

- **Understand men's and women's tasks** in using and impacting the environment through the collection of gender-sensitive data and the use of gender analysis tools.

Expected Results:

- Who, by gender, is using natural resources and why.
 - The impact of such uses on the ecosystem and the water resource.
 - Who, by gender, social group and location, is benefiting from various natural resource uses.
 - Which uses and users by gender are generating negative impacts on water resources, as well as types of impacts and reasons for their generation.
 - Who, by gender, is being negatively impacted due to water uses in other sectors that affect water for environment
- **Work with affected communities and stakeholders to find creative solutions** that are good for people and good for the environment. Using gender-sensitive participatory methods for project management and policy development facilitates greater expression and consideration of both women's and men's voices—a worthwhile effort since those most intimately involved



Using gender-sensitive participatory methods facilitates greater expression and consideration of both women's and men's voices

with the problem often have good ideas for the solution.

Expected Results:

- Solutions in keeping with IWRM principles are found and linked with national or local IWRM initiatives.
 - Solutions incorporate traditional good practices and knowledge of women and men about the environment.
 - Solutions build on the knowledge and experience of women and men and provide a foundation for local ownership and commitment to action.
 - Benefits and disadvantages are not confined to specific gender or social groups.
- **Capture the interests of men and women in sustainable solutions** via gender-sensitive stakeholder analysis and gender-sensitive participatory methods. Participation in decisions and implementation enhances accountability, ownership and flexibility and can contribute to the decentralised management goals of IWRM.

Expected Results:

- Women's and men's stakes in water and environment are better represented
- Trade-offs among water uses, use of natural resources and environmental conservation are more thoroughly analysed and tackled, thereby enhancing environmental sustainability without jeopardising livelihoods.

8. HOW TO GET ECONOMIC EFFICIENCY BENEFITS FROM GENDER



Using gender tools, it is possible to consider how priorities for investment are determined, whether they are in line with IWRM and whether both women and men would yield a different result.

- **Understand who is to benefit** from investment, who will pay for the benefits and who will be negatively affected. Using gender analytical tools and gender-sensitive data in combination with gender budget tools, it is possible to consider how priorities for investment are determined, whether they are in line with IWRM and whether increased consultation with both women and men would yield a different result.

Expected Results:

- Gender inequities in water sector investment become visible, enabling the development of better mechanisms.
- As the stakes of women and men are properly identified, priorities for investment better reflect consensus among different stakeholder groups, politicians and water resource management goals.

- **Investment decisions.** Technology choice and investment decisions always require community consultation and input from expected beneficiaries. Consultation with both women and men through gender-sensitive participatory tools is essential, as experience, needs and expectations almost always differ across genders.

Expected Results:

- Chosen technology is appropriate, affordable, and acceptable to the main targeted beneficiaries (women and/or men).
- Increased satisfaction.
- Easier and longer operation and maintenance.

- **Management.** Gender-sensitive consultation identifies who is in charge of each task in water management and how tasks can be better distributed to maximize efficiency, fairness and effectiveness. Gender sensitive research on household income allocation can identify who pays for water services, her/his willingness and ability to pay and the best way to overcome constraints on timely payment. Additionally, a gender sensitive analysis of O&M procedures helps managers understand who is

best positioned to effectively solve minor and major technical problems in water services.

Expected Results:

- Risks of gender biased or inequitable solutions are reduced.
- Existing good managerial practices are made visible and supported.
- Operational systems are appropriate to the gender group most affected and sensitive to gender bias.
- Water technologies are chosen to facilitate maintenance from those women or men who first detect the problems.
- Cost-recovery in water related services is improved.
- Women and men are more satisfied with the services delivered in their communities.
- Reduction of conflicts due to tariffs and/or discontinuity in service.

9. HOW TO GET EQUITY BENEFITS FROM GENDER

- **Examine the distribution of benefits from water uses, services and management.** Gender analytical tools, participatory methods and gender-sensitive data reveal who participates, who benefits (men, women, poor, rich), who is most affected, and how.

Expected Results:

- A fuller understanding of strengths and weaknesses in present management to support the identification of opportunities for improved management.
- An understanding of gender related inequalities and their relationship to and potential for correction through improved water resources management.

- **Encompass actions with poverty alleviation.** Gender-sensitive analysis and gender budgeting help managers to decide on systems which allow improved access to water services for disadvantaged groups and ensure that negative impacts are allocated to users (user/ polluter pays principle).

Expected Results:

- Gender inequity pathways in water issues become transparent, allowing for the design and implementation of mechanisms to reduce some causes.
- Gender-sensitive programmes are targeted to prioritise the most vulnerable groups.

- **Promote more transparent systems of allocation and accountability** that report gender-based information, allow for and promote gender sensitive participation, and analyse water budget effects on women's and men's welfare.

Expected Results:

- Gender and other social inequities are made more evident, facilitating awareness and progress toward addressing the root causes of the problem.

- **Empower people** by deciding on management systems that recognise, respect, promote and use the skills and expertise of both women and men.

Expected Results:

- Poorer people are supported and their capacities are enhanced.
- Gender inequity is reduced.



Changes in water management systems provide a chance to re-assess and change management practices that are biased in favour of specific gender, economic, ethnic or social groups.

WATER SUPPLY SECTOR

A GENDER PERSPECTIVE

2



The precious water

1. THE PROBLEMS



In developing countries, women and girls spend an estimated 40 billion hours every year hauling water

LACK OF ACCESS TO SAFE WATER

Worldwide, 1.1 billion people still use unsafe drinking water sources. They are mainly the poor, concentrated in rural areas and slums around big cities. In 1995 UNDP estimated that 70% of poor people are women.

- Women are most affected by inadequate water supply. Women are generally more vulnerable to poverty and once poor, have fewer opportunities to escape poverty.
- Worldwide, women and children expend a huge amount of time and energy fetching water. In developing countries, women and girls spend an estimated 40 billion hours every year hauling water. They spend as much as 8 hours a day carrying up to 40 kg of water on their heads or hips. Usually, they become primarily responsible for obtaining water when it is not supplied by a piped system.
- Health is impacted by water quality, especially through poor hygiene. Polluted water may affect women and children most due to higher levels of contact with polluted water during collection, bathing and drinking. Annually 3.4 million people, most of whom are children, die from water-related diseases. Millions more, primarily women and children, suffer debilitation from water-borne diseases.
- Failure to consult the most important users (usually women) in the development of new water supply schemes often results in poor technology choice and location, and inappropriate payment and maintenance systems that lead to rapid breakdown. This helps explain why 40% of the water supply infrastructure built during the water decade (1981-1990) was not operational by 1998.

COMPETITION FOR WATER

40% of the world's population live in conditions of water stress. Competition among users is often aggravated by droughts, land use, climatic variation, over-extraction, misuse and contamination. When conflicts arise the most powerful group usually has the advantage when it comes to accessing water.

- Women are disadvantaged by water competition if they have little or no water rights.
- During times of scarcity or increased competition, men's water use often takes priority, forcing women and children to travel further to find water for the household.
- Women usually have a higher stake in productive uses of household water, though these uses are seldom recognized.
- Health is impacted by water scarcity. An estimated 8 million people are blind from trachoma and 500 million are at risk from this disease, with women 3 times more likely to be blinded. Providing adequate amounts of water can reduce the median infection rate by 25%.

AFFORDABILITY

Cost-recovery and financial sustainability of water supply services are threatened by failure to take into account differences in people's financial capacity and the impact of tariff systems.

- In many societies women have mobility restrictions and payment constraints. Low-income households, particularly those headed by women, struggle to pay large lump sums for water connections and even

monthly payments. Allowing users to pay smaller amounts more frequently and nearer to home makes water more affordable for them.

- Technology choice affects affordability. Consulting users of both genders may result in a more acceptable, user-friendly and sustainable service.

ADMINISTRATIVE FAILURES

Water utilities and other water supply systems often fail to recognise the complexity of administration, especially at the community level. It takes time, extensive social efforts and continued support to build a community water management system.

- In many societies, formal administration and decision-making are misconceived as men's work even though women may manage water in practice. In these situations, women's interests and concerns are ignored and their roles within the water system are lost.
- Many administrative failures at the community level occur when women's commitment and interest are not recognised. Male-centred systems may fail due to inexperience, lack of interest or other work commitments outside the community.

2. BENEFITS OF GENDER APPROACH TO WATER SUPPLY

IMPROVED EFFICIENCY OF WATER USE

- Reduced water loss and improved maintenance: When women and men participate in technology choice and maintenance arrangements, water use can be reduced, breakdowns shortened and maintenance better financed.
- Improved adaptability to periods of water shortage: Take into account women's knowledge of alternative water sources and target methods to reduce the water demands of men, women, boys and girls, in accordance with their specific water use behaviour.
- Increased access to water supply: Higher participation of women in the location of water facilities and in management and financing systems is significantly associated with improved water supply to more households.

IMPROVED SUSTAINABILITY OF WATER SUPPLY SYSTEMS

- Acceptable and effective water supply system design: It comes from considering the different interests and experiences of both women and men. Gender sensitive analysis and stakeholder participation aid to choose acceptable technologies and design of effective management and financial systems.
- Reduced costs in the construction of the water supply system by up to 40%: Involve women and men in different roles during construction for contributions of labour, resources or monitoring. In many cases, women have been considered the most suitable to check quality of construction because many are home during the day and can make arrangements to supervise the work. Targeting capacity building at this stage will improve future operation and maintenance.
- Sustained operation of the supply system: Where women and men participate in decisions on the type of water service installed, the service performed better, financial performance was higher and local management was stronger.



Where women and men participate in decisions on the type of water service installed, the service performed better, financial performance was higher and local management was stronger.

Table 1. Contribution to IWRM goals by considering gender in water supply

BENEFITS	IWRM GOALS		
	ENVIRONMENTAL SUSTAINABILITY	ECONOMIC EFFICIENCY	SOCIAL EQUITY
Efficiency of water use			
▪ Reduce water loss and improve maintenance	+	+++	
▪ Improve adaptability to water shortage		++	
▪ Increase access to water supply		++	+++
Sustainability of water supply systems			
▪ Acceptable and effective water supply		+++	++
▪ Reduce costs in construction		++	
▪ Ensure sustained operation		+++	
▪ Deal effectively with conflict	+	+	+
Protection of water resources			
▪ Protection of water sources	+++	+	
▪ Improve health conditions		+	++
Social and economic development.			
▪ Higher service coverage			+++
▪ Positive economic benefits		++	++

- Reduction of conflicts: Respecting views from both women and men gives key clues about what can and cannot work and builds people’s social acceptance and respect.

IMPROVED PROTECTION OF WATER RESOURCES

- Protection of water supply sources: Women’s and men’s active participation in water supply projects can improve attempts to identify and resolve pollution and land use problems in the catchment.
- Improved health conditions: Gender analysis can help identify gender specific reasons for exposure to water-borne diseases and inform the development of targeted responses.

IMPROVED SOCIAL AND ECONOMIC DEVELOPMENT

Targeting women as well as men in addressing water supply solutions can lead to:

- Higher service coverage: Higher participation of women in the location of water facilities and in choices concerning local management and financing is significantly associated with more households with improved water supply.
- Positive economic benefits: Women’s economic situations improve when they gain better access to water and receive payment for construction, maintenance or other work performed.

3. HOW TO GET THE BENEFITS

In order to maximize the potential benefits of the gender approach, gender considerations should be incorporated into all levels of sustainable water supply system development: the enabling environment of policy and law; the institutional environment and the operational level.

ENABLING ENVIRONMENT

Water laws and water policies that need to be examined. In addition, other gender laws issues may need to be included.

- **Analysis**
 - A gender analysis is usually essential to make a baseline determination of the existing position and status of women and men in relation to water laws and policies.
 - Gender analysis helps determine the potential gender impacts of changes in water law and policies and serves an assessment tool for determining whether budget allocations are balancing gender inequities in the water sector.
- **Equitable rights**

- Encourage gender awareness in the water sector.
- Seek guarantees for equal entitlement to and protection of women's water rights. Advocate for an explicit recognition of women as users and managers in water laws and policies.
- Advocate for legal mechanisms to allocate and protect access to basic water supply.

■ Participation

- Promote recognition of stakeholder participation as a principle of water law. Make explicit the right and urgency of women's involvement in structures and mechanisms for citizen participation.
- Seek equitable participation. Remember that better-off women and men usually have a different stake and better access to participation than the poorest women and men.

INSTITUTIONAL ARRANGEMENTS.

Institutions are being reformed to manage water more efficiently and sustainably. This provides an opportunity to focus greater attention on gender issues.

■ Analysis

- A gender analysis is necessary to assess the internal institutional situation in terms of gender issues and to evaluate gender impacts on the effectiveness of the day-to-day work of the institution

■ Capacity Building in gender issues

- Train your technical and managerial personnel in gender and participation with a focus on practical issues such as where and why taking into account gender issues contributes to better system performance and fairness. Include the participation skills necessary for working with communities in the water supply sector

■ Monitoring and evaluation

- Develop a framework for monitoring and evaluating sector/institutional performance on gender issues, as this approach can reveal hidden problems and potential solutions.
- Develop and inform gender-disaggregated and gender analytical indicators.

■ Gender sensitive budgeting

- Gender analysis, gender sensitive participation and gender specific actions require resources. Ensure budget allocation for balancing gender in water sector programmes.

■ Development of an equal opportunity policy in staffing

- Appoint women personnel to technical and managerial roles, not only to secretarial positions.
- Promote equal salary and equal access to opportunities.
- Develop measurable, disaggregated targets to monitor progress.



Gender analysis is about understand culture, e.g. the patterns and norms of what men and women, boys and girls do and experience in relation to water.



Gender analysis is the process of examining why the disparities are there, whether they are a matter for concern, and how they might be addressed

OPERATIONAL ASPECTS FOR WATER SUPPLY MANAGEMENT

The multiple practices and procedures embedded in the various elements of water supply management and operations may become more effective and efficient if gender is taken into account.

▪ Water resources assessment

Gender assessment tools can help to identify:

- Differences in the interests and motivating factors of women and men;
- Differences in women's and men's perceptions on problems of water supply; and,
- Differences in control of and access to vital resources that enable/disable women and men to access improved water supply systems.

▪ Planning

- Allow a gender-balanced expression of ideas, targeting women's opinions about household water use, accessible options, technology and administration.
- Seek gender-balanced participation at all levels.
- Consider the diverse impacts of water supply projects and programmes on women's and men's lives.
- Design and collect data on gender-sensitive indicators.

▪ Economic instruments

- Consider gender differences in willingness to pay and ability to pay. In particular, consider who pays for domestic water.
- Pay considerable attention to the gender implications of any economic instrument designed to assure cost-recovery in water supply projects.

▪ Gender sensitive information management and exchange

- Consider the cultural context and seek communication channels that reach men and women with information that enables them to participate in decision-making.

SANITATION

A GENDER PERSPECTIVE

3



Building sanitation facilities

1. THE PROBLEMS



"Even today, a culture of silence and taboo surrounds the most neglected problem caused by poor sanitation: the lack of menstrual hygiene that is responsible for a huge proportion of women's reproductive health problems"

*Roketha Ahmed, Wateraid
Bangladesh*



LACK OF SANITATION

Worldwide, 2.4 billion people, concentrated in Asia (80%) and Africa (13%), lack access to improved sanitation. 63% are located in rural areas

- Mainly the poor: Lack of access to sanitation mainly affects the poor, who use open defecation as their primary alternative. In 1995 UNDP estimated that 70% of poor people are women.
- Health impacts: When women do not have access to sanitation, they often restrict themselves by reducing and controlling their diet, which leads to nutritional and health impacts.
- Cultural limitations for women: Women and girl's access to sanitation is limited as they have restricted mobility in many cultures, which reduces access to facilities or open defecation areas distant from home. Women and children 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.

POLLUTION OF WATER RESOURCES AND THE ENVIRONMENT

Disposal of untreated waste causes pollution of soil, surface water and groundwater.

- In many countries only better-off people have sewage, and treatment remains insufficient or nonexistent. Large volumes of expensive treated water are used to flush away human waste despite the fact that others lack access to safe water to drink. Water is not used efficiently, opportunities are lost for nutrient recycling and the pollution burden is shifted downstream.
- People who lack sanitation services dispose of faeces in a variety of ways. In most cases this creates optimal conditions for spreading diseases and contaminating water sources. Women and children are most susceptible to water borne disease due to their roles in water collection, clothes washing and other domestic activities. Women are also responsible for the care of sick family members. Of the over 2 billion people worldwide who have water or soil transmitted worm infections, 300 million suffer serious illness.
- Disposal of sanitary items has seldom been considered as a sanitation issue. However, billions of objects such as condoms, plastic bags, sanitary towels and children's nappies are disposed of in sanitation systems annually. These items are a frequent cause of clogging, contribute to solid waste pollution of water resources, and are becoming a significant problem in coastal areas.

TECHNICAL FAILURES

Despite huge investments, a considerable proportion of sanitation systems fall out of use soon after their construction. In most cases this is due to ineffective participation, and poor design, technical choice or methods of implementation.

- Lack of gender consultation results in technical options that do not address cultural taboos or traditional practices regarding excreta disposal. In many situations, cultural barriers inhibit sharing sanitation facilities among women and men, including among fathers and daughters. In other cases, children's excreta are considered clean and are not handled with care by caretakers.
- In areas where there is no access to tap water, many systems still rely on water to flush, adding an additional water-fetching burden to women and children. On the other hand, dry sanitation technologies ignore the need for water for hygiene, which may affect women more than men.
- Menstruation poses additional sanitation requirements for women, which are seldom considered in the design of sanitation systems. 4-5 times per day during 4-7 days each month, women require a private space to change sanitary items used to collect menstrual flow, as well as water for cleaning. Inadequate sanitary facilities prevent girls from attending schools during periods of menstruation, a factor that contributes to the fact that the majority of the 120-million school-age children not in school are girls.
- In many societies, the task of cleaning toilets falls to women or children, thereby increasing their exposure to disease. Pumping systems to empty pits and septic tanks may be formal or informal and often result in disposal of the waste where it contaminates water resources.

2. BENEFITS OF GENDER APPROACH

IMPROVED ACCESS TO ACCEPTABLE SANITATION

- More appropriate and acceptable sanitation solutions: Gender sensitive participation and gender-targeted information will improve technology selection and community commitment to sustainable solutions that include improved hygiene-related behaviours.
- More successful projects: Sanitation is a household decision in which men and women have different motivations and interests. Practice has demonstrated that sanitation coverage only improves when there is sufficient understanding of the benefits, and local knowledge on construction and maintenance. Additionally, many projects show that women are better at convincing others to build a new sanitation facility.
- Easier maintenance and cleaning: Since women are responsible for cleaning, they are usually the first to detect and solve failures. As a result, women acquire considerable knowledge about maintenance and the advantages and disadvantages of certain technologies. Then, when women's needs and preferences are considered these tasks become easier.



"One year after the installation of the latrines, the follow-up team found that many of the women and children were not using them.

Investigations identified the problems. To begin with, in a world made of mud-colored adobe houses, the white-painted latrines were perceived as too clean for their intended purpose. Children under the age of five were frightened of falling into the pit. Women considered the ever-present flies to be malignant, disgusting creatures. And they were reluctant to expose their vaginas to the corresponding hole in the sacred mother earth, lest it blow an evil wind up them"

Betty Soto, Bolivia

SOCIAL BENEFITS OF SANITATION.

- Increased sanitation coverage: the gender sensitive approach helps to mobilize demand for improved sanitation and address cultural barriers to sanitation. Gender analysis may also identify gender specific disease exposures, thereby revealing how and where to address them. Social marketing and capacity building is more effective when targeted by gender group.
- Improved school attendance: Girl's attendance at school is increased through improved school sanitation. For example, in Bangladesh a school sanitation programme has increased girls' enrolment by 11% every year since it began in 1990.
- Reduced violence against women: Violence against women, such as rape, can be reduced when decisions about location, privacy and other features of sanitation facilities are made with gender sensitive participation.

Table 2. Benefits of gender approach in sanitation

BENEFITS OF GENDER APPROACH	IWRM GOALS		
	ENVIRONMENTAL SUSTAINABILITY	ECONOMIC EFFICIENCY	SOCIAL EQUITY
Improved access to acceptable sanitation			
▪ Appropriate and acceptable sanitation solutions	+	++	+
▪ Increased sanitation coverage			+
▪ Better maintenance and use		++	
More Sustainable benefits from sanitation			
▪ Reduced environmental risks to human health	++		++
▪ Girl's attendance at school is increased			+++
▪ Violence against women reduced			+++
Improved protection of water resources			
▪ Reduction pollution of water resources	+++		
▪ Increased ecological options for sanitation	++	+	

IMPROVED PROTECTION OF WATER RESOURCES.

- Improved hygiene practices: Gender analysis helps to identify whom the real decision makers are with regard to waste disposal and which factors influence women's and men's sanitation-related decisions. Gender-targeted information can change sanitation and hygiene practices to promote sanitation and reduce contamination behaviours, thereby reducing pollution of water resources.
- Ecological sanitation solutions: more environmentally friendly sanitation solutions require gender analysis and commitment from both women and men. A gender approach can help identify ecologically sound technical options that fulfil women's and men's interests and have financial, technical and health feasibility.

3. HOW TO GET THE BENEFITS?



Gender tools in sanitation projects help to identify "who do what" and "who has what" regarding wastewater

Maximizing the potential benefits of a gender approach requires action at three main levels: a) the legal framework and policies for sanitation; b) institutional arrangements for sanitation; and, c) management instruments for sanitation.

SANITATION LEGAL FRAMEWORK AND POLICIES

There are some actions that any water manager can bring into the public arena

- **Policy**
 - Promote women's right to participate in water policy as a fundamental principle. Make explicit the urgency of women's involvement in structures and mechanisms for decision-making on sanitation services.
- **Enable alternative sanitation systems**
 - Promote regulations that allow and facilitate alternative systems for sanitation. In particular, seek incentives for efficient use and reuse of water related to sanitation. Make explicit the key role of women in such systems.
- **Gender analysis**
 - Promote a gender sensitive analysis of the impact of laws and policies in the sanitation sector.

INSTITUTIONAL ARRANGEMENTS FOR SANITATION

There are some actions that can be made

- **Capacity Building in gender issues.**
 - Train technical and managerial personnel in gender and participation methods with specific attention to achieving effectiveness in water and sanitation services.
- **Address gender balance in staffing and conditions of service.**
 - Appoint women personnel to technical and managerial tasks, not only to assistant or office positions.
 - Promote equal salary and equal access to work opportunities in the sanitation chain.
 - Give women and men equal opportunities to access education and training in both technical and managerial tasks.
- **Gender sensitive budgeting**
 - Ensure budget allocations for addressing gender in sanitation solutions.
- **Monitoring and evaluation**
 - Develop a framework for monitoring and evaluating sector performance on gender issues.
 - Develop gender disaggregated and gender analytical indicators.
- **Information and communication**
 - Consider women's perspectives and involve women in social marketing for sanitation. Target information, communication routes and capacity building with an understanding of gender roles and literacy.



The quality of women's participation as well as the quantity needs to be improved.

For women who are unused to assuming positions of authority, considerable groundwork may be needed to develop the self-confidence and assertiveness skills necessary for dealing with authorities

MANAGEMENT INSTRUMENTS FOR SANITATION

- **Carry out social assessments in sanitation projects with attention to gender** to identify the following
 - Differences in needs, demands, practices and motives among women, men, boys and girls.
 - Differences in control of and access to vital resources that enable/disable people to access improved sanitation.
- **Planning**
 - Allow a gender-balanced expression of ideas, targeting women's opinions about current practices, accessible alternatives, technology, and administration.
 - Seek equitable participation, considering not only gender, but also other characteristics such as wealth and education.
 - Disaggregate data to reveal differences among the benefits and impacts that women and men experience as a result of sanitation-related actions.
- **Economic instruments**
 - Consider gender differences in willingness to pay and the ability to pay and in access to subsidies and extension support.

AGRICULTURE

A GENDER PERSPECTIVE

4



Watering the communal crop

1. THE PROBLEMS



Today's food production involves the use of 6800 km³/yr of water. To feed humanity by 2050 it is estimated that the total requirement will double.

Many river basins are already characterized by strong competition among farmers and between agriculture and other sectors for water, over-exploitation and poor water management.

Competition for water continues to intensify with growing water requirements for agriculture and increasing water demand to support population growth and human development. The main challenges to sustain and increase agricultural production are

- Proper management of green water (the water moisture in the soil);
- Increases in water use efficiency in irrigation and rain fed crops; and,
- A better distribution of the benefits of water in agriculture.

The water resources manager cannot hope to address these challenges without tackling the issue of gender. Strong gender-related roles and responsibilities in agriculture require targeting of the right gender group to ensure implementation of appropriate and effective land and water management systems.

THE REAL LAND AND WATER USERS MAY BE HARD TO REACH

- Women and men usually have different responsibilities in cropping, access to and control over resources (such as land, water, finance, technologies, markets, and skills), and control over the harvested produce. Consequently, they have widely different interests and attitudes with regard to water management decisions.
- Either men or women usually dominate farm systems, though occasionally they have similar responsibilities. One gender may make the majority of decisions over acquisition of land, crop choice, timing of operational calendar, water conservation or irrigation methods, applying technologies, pesticides, fertilisers, hiring labour, marketing or consuming the harvest, and use of income gained. In all systems, women tend to face particular problems such as:
 - Strong gender norms, prejudices and taboos that reduce women's scope to manage agriculture.
 - Women are not allowed to interact with 'strange' men for trade, or input and technology provision. In addition, in many societies, women have restricted mobility, which impedes market access for selling their produce.
 - Women often get the least preferred night turn in irrigation rotations, with threats of sexual violence that make it both difficult and dangerous to irrigate their fields. Women have no other alternative than incurring the costs associated with hiring men for such tasks.
 - Although women may be elected to committees and leadership positions, men may still dominate such positions (i.e. positions that require interactions with outside male-dominated institutions).
 - Men may also encounter taboos restricting them from certain activities. For example, men are forbidden to enter wetlands cultivated by women in West Africa, as this is believed to lead to flooding.

AGRICULTURE HAS STRONG LINKS WITH POVERTY

Despite urbanization, some 75% of the world's poor live outside of cities and derive their livelihoods from small-scale agriculture. Some 70% of agricultural workers are women, and small-scale agriculture

conducted by women feeds the vast majority of the world's poorest people.

- Poor soil and water management in both rain fed and irrigated farming restricts economic development and poverty reduction.
- Lack of access to finance for developing more prosperous and water efficient agricultural enterprises limits poor and women farmers' participation in agriculture to a subsistence level activity.

GROWING COMPETITION FOR WATER

Today's food production involves the use of 6800 km³/yr of water. To feed humanity by 2050 it is estimated that the total requirement will double. There is already strong competition among farmers and between agriculture and other sectors for water, over-exploitation and poor water management. Scarcity is being aggravated by poor land use, climatic variation, and pollution.

- Women rarely have equal access to water, often carry out small-scale production for which they need water and are the first to be affected in times of water shortage. Inadequate attention to water efficiency favours inefficient use by male dominated richer commercial farms.
- Over-extraction by wealthy farmers reduces water flow in rivers and water levels in groundwater. This affects poorer farmers and household consumers (usually women, subsistence farmers and the poor).
- In most countries, water allocation for agriculture is linked with land ownership, yet in many places women have little or no rights to own land. Even when the right is granted, guarantees may be unequally provided and reallocation may overlook gender imbalances.



Near 70% of agricultural workers are women. But the access to land and water do not account to the same amount.

DECLINING WATER QUALITY

Poor land management can increase sediment loads from erosion. Water pollution also occurs when water abstracted for agriculture is returned to rivers or groundwater polluted with salts, fertilisers and pesticides. Both women and men farmers have a different stake and responsibility for this.

- Depending on the farming system and remedial action needs in question, poor land and water management practices may be attributed to women or men accordingly.
- All downstream users are impacted by pollution and water wastage upstream. Upstream conditions affect access to clean water for domestic use by women and children, impair women's and men's access to quality water for subsistence farming and small gardens, and raise treatment costs for water supply of cities and towns by passing contamination costs through to downstream users.
- Health effects of agricultural water pollution strike women and children most due to: high contact levels during water collection, vulnerability during pregnancy, and children's susceptibility to pollutants such as nitrates.

2. BENEFITS OF GENDER APPROACH TO AGRICULTURE

IMPROVED EFFICIENCY OF WATER USE

Gender sensitive analysis and stakeholder participation that builds on equitable representation of the interests and experiences of both women and men can improve the efficiency of water use in the following ways:

- Targeted management support: It is possible through the identification of gender differences in use and management of water for agriculture.

BOX 3. Improving water resources management in agriculture

Indigenous communities in Kalinga-Philippines, have revived traditional irrigation and forest-management techniques that protect local watersheds using a combination of reforestation, agro-forestry, plantings, environmental-friendly irrigation and fish production within active rice paddies. This resulted in a huge increase of agriculture productivity, higher incomes and protection of water resources.

- Increased water productivity: Recognise the role of women in construction, operation and maintenance of many irrigation systems can help reduce water losses and increase water productivity.
- Better land and water management: Traditional knowledge of water conservation, which is often in women's hands, can make a valuable contribution to better land-water management by maximizing the capacity of soil-vegetation to retain water through the introduction of plant species that are appropriate to local hydro-climatic conditions. Women often have considerable knowledge of seeds and crops that are both economically productive and less water demanding.

IMPROVED PROTECTION OF WATER RESOURCES.

- Enhanced watershed protection: Future agricultural expansion relies on the water retention capacity of soil, which depends on coverage and land use changes. Gender sensitive involvement of women and men can enhance restoration activities in the watershed by drawing on traditional knowledge and labour from both men and women. (see box 3)
- Reduction of water pollution due to fertilizers and pesticides: Avoiding excessive use and shifting to natural methods of pest-control requires active involvement and training of women and men, in accordance with their roles in these activities.

IMPROVED SOCIAL AND ECONOMIC DEVELOPMENT.

- Recognition of disparities: Improved agricultural productivity and a fairer distribution of benefits are significantly associated with access to resources. A gender sensitive analysis of farming systems can help reveal the gender disparities in competition for and allocation of water resources, land, credit, commercial linkages and agricultural knowledge.
- Successful projects with shared benefits: Consultation with both men and women in agricultural project design can improve technology, local management and financing choices, increase success and ensure 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 enabling trust-building and social acceptance for minorities.

Table 3. Benefits of gender approach in Agriculture

BENEFITS OF GENDER APPROACH IN AGRICULTURE	IWRM GOALS		
	ENVIRONMENTAL SUSTAINABILITY	ECONOMIC EFFICIENCY	SOCIAL EQUITY
Improved efficiency of water use			
▪ Targeted management support	++	++	
▪ Reduce water losses and increase water productivity		+++	
▪ Maximise the capacity of soil-vegetation to retain water	+++		
Improved protection of water resources			
▪ Capacity of watersheds to retain water and regulate water flow	+++		
▪ Reduction of water pollution due to fertilizers and pesticides	+++		
Improved social and economic development			
▪ Improve agriculture productivity and promote a fairer distribution of benefits		++	++
▪ Better design of projects that consider equitable distribution of benefits		+++	+
▪ Prevent water conflicts	+	+	++

3. HOW TO GET THE BENEFITS

Benefits of the gender approach can be realized by action at three levels: a) the legal framework and agricultural policies, b) the sector organization set-up or institutional arrangements, and c) the operational level.

LEGAL FRAMEWORK AND POLICIES.

Laws and policies related to agriculture and water require changes that enable a more equitable distribution of agricultural benefits and wiser water use. In addition, other laws and policies that address gender issues may need to be examined.

- **Analysis**
 - Conduct a gender analysis of farming systems to determine the existing distribution of position and status among women and men.
 - Use gender policy analysis to assess the ways in which changes in water, land and agricultural laws and policies can affect or benefit women and men from diverse social groups.
- **Equitable rights**
 - Advocate for an explicit recognition of women's right to land. Legal reform can address gender inequities in inheritance systems and assure that mechanisms for land tenure enforcement are accessible to women. When women's land and property rights are made visible, both gender equity and the perception that women are able to participate fully in economic growth initiatives increase.
 - Advocate for recognition of women's water rights, as well as mechanisms to grant equal entitlement and protection of those rights.
- **Policies to reduce gender inequity in access to key resources**
 - Advocate for equitable access to credit. Special policies can enable women to access loans through mechanisms such as micro credit in combination with entrepreneurial training.
 - Advocate for extension services to women. Women farmers still receive only 5% of all agricultural extension services.
 - Make explicit the right and urgency of women's equal involvement in structures and mechanisms that allow citizen participation in water decisions.

INSTITUTIONAL ARRANGEMENTS

- **Analysis**
 - Conduct an internal gender analysis of your own institution to assess the relevance of gender to day-to-day work and effectiveness.
- **Capacity building**
 - Train your technical and managerial personnel in gender and participation issues, with a focus on practical issues that are relevant for agriculture in your country or region.
- **Development of equal opportunity policy in staffing.**
 - Appoint women personnel in both technical and managerial roles.
 - Appoint more women rural extension workers to facilitate



Legal reform can address gender inequities in inheritance systems and assure that mechanisms for land tenure enforcement are accessible to women.

When women's land and property rights are made visible, both gender equity and the perception that women are able to participate fully in economic growth initiatives increase

- communication with, provide training to, and foster new sources of income for women farmers.
- Promote equal salary and equal professional opportunities for women.
- **Monitoring and evaluation**
 - Monitor and evaluate sector/institutional performance on gender and water issues. Link this information with land use information.
 - Introduce gender-disaggregated data into the sector, including monitoring of participation.
- **Gender sensitive budgeting**
 - Ensure budget allocation for all efforts that seek to improve gender imbalances in the agricultural sector. Give priority to measures that may improve water use efficiency and tackle poverty.

MANAGEMENT INSTRUMENTS

- **Provide gender-targeted programmes.**
 - Promote and facilitate vegetable gardens and food crops, which are often within the purview of women, to improve the nutritional status of the family and provide a seasonal income.
 - Involve women as well as men in the various stages of development projects including water system infrastructure and operation and maintenance.

ENVIRONMENT

A GENDER PERSPECTIVE

5



Two young fisherwomen

1. THE PROBLEMS



90% of the world's 1.1 billion poor rely on the environment for at least a fraction of their income through small-scale farming, fishing, hunting, and collecting of firewood, herbs or other natural products.

Usually women and children rely on products such as roots, fibres, leaves, bark, fruits, seeds, nuts, insects and sap. Men also hunt and trap small mammals, reptiles and birds.

NATURE IS A CONSTANT LOSER IN THE COMPETITION FOR WATER

The water requirements for maintaining environmental quality and sustaining ecosystems often go unrecognised. Water allocation may be unregulated or even deliberately over-allocated to satisfy demand. Ecosystems suffer wide and often irreversible changes when water is in short supply or of poor quality, conditions which may aggravate the problem by reducing the ecosystem's ability to function as a water purifier, water storage and water generator.

- Poor rural families are very dependent on the environment. 90% of the world's 1.1 billion poor rely on the environment for at least a fraction of their income through small-scale farming, fishing, hunting, and collecting of firewood, herbs or other natural products. Usually women and children rely on products such as roots, fibres, leaves, bark, fruits, seeds, nuts, insects and sap. Men also hunt and trap small mammals, reptiles and birds.
- Poor rural women, who collect environmental goods, are usually more affected when the environment suffers from lack of water as they lose their local means of subsistence, have to travel longer distances to collect what is needed and face higher levels of economic and social stress.

MANY ECOSYSTEMS ARE IN DANGER FROM HUMAN ACTION

Pollution of soil and water, over extraction of water and alteration of wide land areas has been contributing to the depletion of water and other natural goods and services. Women and men reduce environmental sustainability in different proportions and by different means as they have different access, control and interests.

- Powerful groups, usually male, do most damage: Those groups have a greater potential to produce damage as they can undertake more systematic and large-scale exploitation and industrial transformation of the environment. For example, logging reduces water retention, causes erosion and siltation, and sometimes contributes to landslides.
- Poor people damage the environment by overexploitation: Poor people also affect the environment by overexploitation and land degradation, often on a localised scale and as a means of survival. Improper land use on the part of the poor can lower natural productivity and affect river catchments and water quality. Women, who rely more on the environment as a livelihood source, are more likely to be affected. They are also more likely to be affected when watershed damage impacts negatively on downstream water supply systems.
- Impacts of damage are felt more by poor people: Small-scale and subsistence fishermen and fisherwomen are deeply affected by water ecosystem damage. In marine fisheries, most areas are producing lower yields than in the past. In 1998, an estimated 20% of the world's freshwater fish were vulnerable, endangered or extinct. Women, who are usually in charge of collection in coastal shores or mangroves, are more vulnerable to coastal damage. Almost 50% of the world's coasts are threatened by development-related activities.

FLOODS, DROUGHTS AND OTHER EVENTS

When ecosystems are degraded their water flow regulation capacity is depleted, erosion of topsoil increases, and desertification may occur, increasing the risk and impact of floods and droughts.

- In many cases, women and children are more affected by floods. Following the cyclone and flood of 1991 in Bangladesh, for example, the death rate was almost five times as high for women as for men. Warning information was transmitted by men to men in public spaces, but rarely communicated to the rest of the family. Since many women were not allowed to leave the house without a male relative, they perished waiting for their relatives to return home and take them to a safe place. Women's chances for survival were reduced by the fact that fewer women knew how to swim than men.
- Women take longer to recover from flood effects. The impact of flood and drought events weighs heaviest on women because they lack the means to cope with disasters. In many cases, gender is not properly considered after a disaster, leaving women in a worse situation with a much longer recovery time than men.
- Women have increased burdens in times of drought. In droughts, poor women assume even higher burdens than usual, as they have to collect food, water and wood in distant areas—efforts that negatively affect their health and income. In addition, out-migration of men may occur due to resource shortages, generating increased burdens, and directly impacting an even higher proportion of women.



The impact of flood and drought events weighs heaviest on women because they lack the means to cope with disasters

Due to climate change, frequency and severity of such events are expected to increase.

CLIMATE CHANGE

Climate change is most evident in weather events that are more extreme than those that communities commonly experience. Whether due to climate change or natural climate variation, changes in the rainfall pattern, higher evaporation and higher temperatures alter the hydrological cycle and impact ecosystems and people. Flood and drought frequency and severity are expected to increase and result in crop and infrastructure damage.

- Climate change will produce a disproportionate effect on women because it is expected to worsen the negative effects explained above, impacting water supply, sanitation and agriculture.

2. BENEFITS OF GENDER APPROACH

A gender approach can contribute to protection and restoration of the environment, and prevent further damage to watersheds. In addition, a gender approach can help reduce negative impacts and improve coping mechanisms for drought and flood events whether caused by climate variation or climate change. These impacts may have a multiplying effect that may also benefit water supply, sanitation, agriculture, and the social and economic development of society.

PROTECTION OF WATERSHEDS

- More effective solutions: Women and men view watershed protection differently. Therefore, more appropriate and acceptable solutions can be devised if watershed management is gender sensitive and responsive. A gender approach gives a better assessment of the watershed situation, the causes of damage and the impacts. Many women and men have found that restoring the forest, grasslands, wetlands and other natural features, is the best way to protect water in the long-term. Women and men contribute to better reforestation and watershed protection projects with greater community ownership of the benefits.

Table 4. Benefits of gender approach in environment

BENEFITS OF GENDER APPROACH IN ENVIRONMENT	IWRM GOALS		
	ENVIRONMENTAL SUSTAINABILITY	ECONOMIC EFFICIENCY	SOCIAL EQUITY
Protection of watersheds			
▪ Improved watershed management	+++		
▪ Appropriate and acceptable solutions	+	+	+
▪ Women and men can participate and benefit			++
Adaptation to climate change			
▪ Vulnerability to floods and droughts assessed		++	+
▪ Improved adaptive capacity and coping with extreme events		++	+
Improved social and economic development			
▪ Improving local ownership and responsibility for natural resources	++		++

- Improved livelihoods: Both women and men can participate and benefit if information and knowledge about land and ecosystem management to improve livelihoods is targeted to both genders.

ADAPTATION TO CLIMATE CHANGE

- Improved risk management: Vulnerability assessments related to floods, droughts and other climatic impacts would benefit from the views and contributions of both women and men. Recognition of the fact that women and men are vulnerable in different ways will contribute to better design, more effective risk management strategies and improved early warning systems.
- Reduced impacts: Improved adaptive capacity and ability to cope with extreme events will result if different segments of society are targeted. Long-term negative impacts can be reduced if strategies for coping with extreme climate events are specific to different population groups and provide for the particular needs of women, children and men.

IMPROVED SOCIAL AND ECONOMIC DEVELOPMENT

- Improving local ownership and responsibility for natural resources has the potential to allow the rural poor and women, as particularly affected groups, to contribute to good ecosystem management and gain benefits as a result. Watershed management actions can reduce gender disparities and bring social and economic benefits to people while improving nature's capacity to regulate and clean water resources.

3. HOW TO GET THE BENEFITS



Many women and men have found that restoring the forest, grasslands, wetlands and other natural features, is the best way to protect water in the long-term.

In order to maximise the potential benefits of a gender approach, gender considerations should be incorporated into the development process on three levels: a) the legal framework and policies that pertain to water, land and environment; b) the organizational set-up in the water or environmental sectors; and, c) the instruments and incentives for appropriate management of water, land and ecosystems.

LEGAL FRAMEWORK AND POLICIES

- **Analysis**
 - Analysis of rural development, land use, water and environmental laws and policies are necessary to assess their benefits and impacts on women and men.
- **Equitable rights**
 - Enable women, as well as marginalized groups, the right to access 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, along with other mechanisms to exercise citizen's rights.
 - Advocate for responsible decentralization that gives local authorities not only the duties but also the means for environmental management. Seek explicit mechanisms to involve women in the process.

INSTITUTIONAL ARRANGEMENTS

- **Analysis**
 - Assess the institutional situation on gender as well as the relevance of gender issues in day-to-day work. Analysis of gender budgeting helps to reveal the true level of commitment to addressing gender in practice.
- **Capacity Building in gender and environmental issues**
 - Train managerial and technical staff in gender and participatory methods. Pay particular attention to green water and the challenge of enabling a better distribution of benefits by gender. Target environmental information to the interests and roles of both women and men.
- **Gender responsible staffing**
 - Appoint women personnel in technical and managerial roles, promoting equality in salary and opportunities.
 - Develop appropriate gender balanced staff structures at the local level to implement watershed management programs with gender sensitive, participatory, pro-poor actions.
- **Information and data**
 - Design and collect gender sensitive and environmentally sound indicators. Information about the beneficial impacts of gender sensitivity on the outcome of watershed management and other projects can demonstrate the value of gender approaches to authorities and society.

INSTRUMENTS

- Gender actions related with specific problems – see table 5.



Enable gender sensitive and meaningful stakeholder participation as a principle for watershed management, along with other mechanisms to exercise citizen's rights.

Table 5. Key gender issues in water and environment

ASPECT	KEY GENDER ISSUES
Floods	<ul style="list-style-type: none"> ▪ Recognition of and attention to gender differences in flood vulnerability, prevention and coping mechanisms ▪ Formulation of flood response and mitigation measures in a manner that is gender sensitive and recognizes that men and women have different roles and responsibilities and different types of vulnerability ▪ Appropriate representation of gender interests in any preventive, responsive and mitigating measure
Droughts	<ul style="list-style-type: none"> ▪ Recognition of and attention to gender differences in drought vulnerability and coping mechanisms ▪ Formulation of drought relief, recovery and mitigation mechanisms sensitive to women's and men's different needs, roles and vulnerabilities
Desertification	<ul style="list-style-type: none"> ▪ Given the gender division of labour in most arid and semi-arid environments, any anti-desertification measures should draw upon local knowledge of the environment and take care not to accentuate existing gender inequities
Freshwater, coastal and marine ecosystems	<ul style="list-style-type: none"> ▪ Appropriate representation of gender interests in ecosystem management, preservation and restoration, as well as in land tenure and concession rights
Other ecosystems	<ul style="list-style-type: none"> ▪ Appropriate representation of gender interests in ecosystem management, preservation and restoration, as well as in land tenure and concession rights
Fisheries	<ul style="list-style-type: none"> ▪ Attention to commercial vs. small scale and subsistence fishing and the differential accrual of benefits from either activity based on gender. ▪ Recognition of the needs of women and men, boys and girls for access to fishing equipment and permits.
Construction of dams	<ul style="list-style-type: none"> ▪ In consultation with different stakeholders, ensure that environmental impact assessments adequately address gender with attention to how livelihood systems and productive activities will be disrupted and how they can be compensated for in the resettlement plans ▪ Assessment of how the benefits to be derived from the dam will accrue to both men a women
Environmental flows	<ul style="list-style-type: none"> ▪ Given the gender roles in procuring and using water and environmental services, women and men may have very different stakes in water quality and environmental flows. Both men's and women's voices should be heard.
Climate change	<ul style="list-style-type: none"> ▪ Promotion of cleaner-burning fuel for household use to help reduce wood collection, air pollution and harmful emissions, and benefit women by cutting their annual cooking costs by 25 percent ▪ Incorporation of both women and men into the decision-making framework on climate change mitigation and adaptation initiatives ▪ Support for the provision of tools, including vulnerability assessments, that build on local and indigenous knowledge held by women and men, and of measures to adapt to or mitigate the impacts of climate change ▪ Integration of gender analysis and gender equality indicators into programmes and projects to identify where specific vulnerabilities to climate change lie, and where opportunities for mitigating and adapting to climate change can be found.

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2. MANUALS



MANUALS WITH ALL KIND OF USEFUL TOOLS

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3. TOOLS



GENERAL TOOLS

1. Definitions

- **DEZA 2004.** *Gender Tool Kit - instruments for gender mainstreaming. Sheet 1. Definitions of Gender Concepts.* [4 pp] SDS. Swiss agency for Development and Cooperation [Online] http://www.deza.ch/ressources/resource_en_24016.pdf [2005, Ago 7]
- **DEZA 2004.** *Gender Tool Kit - instruments for gender mainstreaming. Sheet 2. Gender Strategies.* [8 pp] SDS. Swiss agency for Development and Cooperation [Online] http://www.deza.ch/ressources/resource_en_24017.pdf [2005, Ago 7]

2. Gender Analysis

- **DEZA 2004.** *Gender Tool Kit - instruments for gender mainstreaming. Sheet 3. Gender Analysis.* [6 pp] SDS. Swiss agency for Development and Cooperation [Online] http://www.deza.ch/ressources/resource_en_24018.pdf [2005, Ago 7]
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4. Gender in Household and community analysis

- **DEZA 2004.** *Gender Tool Kit - instruments for gender mainstreaming. Sheet 5. Gender in household and community analysis.* [6 pp] SDS. Swiss agency for Development and Cooperation [Online] http://www.deza.ch/ressources/resource_en_24020.pdf [2005, Ago 7]

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7. Gender in Planning process

- **UNIVERSITY OF TWENTE 1997.** *Gender and Energy: Training pack. Module 6: Building gender tools into an overall planning framework* [40 pp] ENERGIA International Network on Gender and Sustainable Energy [Online] http://www.energia.org/pubs/papers/g_e_manual/tdg_g_e_mod6.pdf [2005, Sept 9]

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4. RESOURCES CENTRES



- Gender and water Alliance www.genderandwater.org
- CAP-NET www.cap-net.org
- UNDP. Energy and Environment www.undep.org/water/gender.html
- WEDO. Women's Environment & Development organization www.wedo.org
- IUCN. Género y Ambiente www.generoyambiente.org
- SIYANDA – BRIDGE. Gender and Development research and information service. Institute of Development Studies www.siyanda.org
www.bridge.ids.ac.uk
- ELDIS. Gender Resource Guide www.eldis.org/gender/index.htm
- WSP. Water and Sanitation program. Participation and Gender www.wsp.org/03_ParticipationGender.asp
- Sanitation connexion. Gender topic www.sanicon.net/titles/topicintro.php3?topicId=18
- IRC. International Water and Sanitation Centre. Gender resources <http://www2.irc.nl/themes/gender/resources.html>
- UNIFEM. United Nations Fund for Women www.unifem.org

5. CASES



CASES - GENERAL CONCEPTS

CASE 1. Social equity

Listen now what Nafisa Barot, from India, tell us about her experience in one project on rainwater harvesting. What does she think about social equity and water? (See pp 28)

Source: **WSSCC 2004. Listening** [81 pp] WSSCC Water Supply and Sanitation Collaborative [Online] http://www.wsscc.org/download/Listening_English_full_pages.pdf [2005, dec 3]

CASE 2. Gender Barriers

Here, despite the cultural barriers in this case from Iran, a fruitful involvement of women into the implementation of a governmental program show us that a better land and water management is possible as far as decentralization also means gender equitable participation (see pp 182)

Source: **UNDP, UNEP, WB, WRI 2004. World Resources 2002-2004 . Decisions for the Earth: Balance, voice, and power. Chapter 8 A world of decisions: case studies** [43 pp] World Resources Institute [Online] http://pdf.wri.org/wr2002fulltxt_173-214_chap08.pdf [2005, Oct 20]

CASES - AGRICULTURE

CASE 3. Agriculture

This case comes from India. Here, a Watershed Management program shows us the challenges and achievements of addressing water, agriculture and gender in a integrated manner. The final results are outstanding (see pp 125)

Source: **UNDP, UNEP, WB WRI 2005. World Resources 2005 .The Wealth of the Poor: Managing Ecosystems to Fight Poverty.** [262 pp] World Resources Institute [Online] http://pdf.wri.org/wrr05_lores.pdf [2005, Oct 20]

CASES - ENVIRONMENT

CASE 4. Environment

Who gains when forest are protected? Here, in this case from Tanzania, environment and people are benefited from an innovative, indigenous approach that, of course, considers water and environmental issues. The ultimate challenge here is: how to reach a more equitable manner to distribute the benefits? (see pp 125)

Source: **UNDP, UNEP, WB WRI 2005. World Resources 2005 .The Wealth of the Poor: Managing Ecosystems to Fight Poverty.** [262 pp] World Resources Institute [Online] http://pdf.wri.org/wrr05_lores.pdf [2005, Oct 20]

CASE 5. Environment

Nature can provide food for people. In this case from South Africa, mussels are the reason why government and Sokhulu people are in conflict. Here, due to a combination of research, indigenous knowledge, participative approach and deep involvement of women and men in different tasks, make a significant difference for coastal management (see pp174)

Source: **UNDP, UNEP, WB, WRI 2004. World Resources 2002-2004. Decisions for the Earth: Balance, voice, and power. Chapter 8 A world of decisions: case studies** [43 pp] World Resources Institute [Online] http://pdf.wri.org/wr2002fulltxt_173-214_chap08.pdf [2005, Oct 20]

CASES – WATER SUPPLY AND SANITATION

CASE 6. Water Supply

Women involvement revolutionized hand pump maintenance in this case that comes from India. See why training for women can make the difference in the water supply system long-term running.

Source: **MAHARAJ, N.(2000)**. *Gender 21 : women's recommendations to the 2nd Ministerial Conference on Water*. Amsterdam. [pp] The Netherlands: International Information Centre and Archives for the Women's Movement (IIAV) [Online] http://www.iiav.nl/eng/ic/water/water_recommendations-en.html [2005, Oct 22]

CASE 7. Water Supply & Sanitation

In this case, from Indonesia, women show us how much they know about design of water supply and sanitation systems. See carefully how simple actions allow them to speak up, express their ideas and suggestions for the community welfare.

Source: **VAN WIJK C 2001**. *The Best of Two Worlds? Methodology for Participatory Assessment of Community Water Services* TP 38, IRC - International Water and Sanitation Centre, Netherlands Pp 113

CASE 8. Water Supply and Sanitation

The Yakupaj initiative was a pioneer project. Here you can find why government decided to use it to bring basic services to more than 1000 of Bolivia's poorest rural settlements. As you will see, gender approach will be a key consideration that makes a difference (see pp 54)

Source: **WSSCC 2003**. *Listening* [81 pp] WSSCC Water Supply and Sanitation Collaborative [Online] http://www.wsscc.org/download/Listening_English_full_pages.pdf [2005, dec 3]

CASE 9. Sanitation

What makes rural sanitation sustainable? This study compares Cambodia, Vietnam and Indonesia cases, showing us how gender, among others, is a relevant factor for successful projects

Source: **MUKHERJEE N 2001**. *Achieving sustained Sanitation for the poor. Policy and Strategy Lessons form Participatory Assessment in Cambodia, Indonesia and Vietnam*[38 pp] Water and Sanitation Programme [Online] http://www.wsp.org/publications/eap_achieving.pdf [2005, Oct 20]