



ReWater MENA Project

MORE AND SAFER WATER REUSE IN THE MIDDLE EAST AND NORTH AFRICA

Training Handbook

Stakeholders' acceptance and gender integration in reuse interventions



GENDER & ACCEPTANCE
IN REUSE INTERVENTIONS



This training material is developed by the Arab Countries Water Utilities Association (ACWUA), in collaboration with the International Water Management Institute (IWMI), under ReWater MENA, a project lead by IWMI and sponsored by Sida. It contains four training modules, covering a range of topics related to reuse of treated wastewater, with a focus on the MENA region.

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The views expressed in this information product are those of the authors of the training modules and do not necessarily reflect the views or policies of IWMI.

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Module One: Methods to increase Stakeholders' acceptance of a given reuse project

1.1. Learning Objectives are to:

- Understand concerned stakeholders and their perceptions.
- Have credibility of water re-use organizations and community trust.
- Understand the importance of establishing effective communication with water re-use organizations.

1.2. Introduction

A well-organized, comprehensive communications program with stakeholders is essential for any modern water reuse project. In this regard, Public involvement is critical to the successful implementation of reclaimed water reuse programs. In order to achieve public involvement, there is a need to establish an effective communication channel. It is an ongoing process that begins with the decision to consider a water reuse scheme and continues throughout the life of any scheme.

A growing number of water reuse projects around the world have failed and been abandoned as a direct result of a lack of community confidence and trust in water reuse schemes projects in both developed and developing countries. In such cases, community misgivings could be attributed, in part, to inadequate communication between water reuse organizations and their stakeholders. In some cases, communities suspected that planning was being undertaken in secret and that their concerns were being ignored. In other instances, water reuse organizations failed to adequately promote the benefits of their operations. Even more detrimental was the failure of reuse organizations to allay stakeholder fears about possible health and environmental risks associated with water reuse.

Communication is a complex process that takes place between two or more parties, whereby information is delivered, received, interpreted and responded to. To be successful, water reuse organizations must communicate effectively with their stakeholders. Stakeholders are organizations and individuals with an interest in a particular project. They include public agencies at all levels, landowners, industry and commerce, special interest groups, customers, potential customers, community leaders and the community in general.

Based on the participatory research method, the attitudes of the stakeholders who are involved in reclaimed water reuse were studied. Research shows that the general public's knowledge on water resources is poor, while their awareness on reclaimed water reuse is high. The general public shows a strong acceptance of non-contact and non-potable reclaimed water reuse, but their acceptance of the three major water reuse types of river water supplement, park water supplement, and agriculture irrigation is **not high**. The beneficial

use of reclaimed water is promoted by water resource managers, industrial sectors, and researchers, and these stakeholders strongly supported the advancement of reclaimed water reuse.

1.3. Understanding the Perceptions of Stakeholders of water reuse and water reuse organizations

When developing a communications program, it is essential that the knowledge, attitudes and perceptions of stakeholders, as they relate to the full strata of physical and emotional issues relating to water reuse, be understood, acknowledged and addressed. People generally respond to a broader range of issues and may base their judgements on quite different values to those of practitioners and experts. While the views of people may change as their knowledge and understanding of a project increase, it should not be assumed that they will eventually share all the views of the practitioners or experts. Nor should it be assumed that any discrepancy in outcome is the result of misunderstanding or unsound reasoning. Understanding stakeholder views towards individual schemes may require considerable local research.

1.3.1. Community views of water reuse.

Different communities and different stakeholders within communities will have varying views of any contentious initiative, including water reuse. For many communities planning for the future, the role of water reuse, whether it be for potable or non-potable supply, is untested. Hence, issues that may influence community response to water reuse are likely to include those associated with:

- Public health.
- Environmental health.
- Economy and finance.
- Available technology.
- Emotional factors.
- Culture and religion.

To fully understand community attitudes to water reuse, it is necessary to consider instinctive and emotional responses that people have to human excrement and sewage issues. It has been illustrated that many people trust their own impressions of water quality (often based on cloudiness of the water) more than they trust medical and scientific evidence. Cognitive factors such as the Law of Contagion and the Law of Similarity may explain many of the incorrect perceptions that people may have about water reuse. The Law of Contagion suggests that once water has been in contact with contaminants, it can be psychologically very difficult for people to accept that it has been purified. The Law of Similarity suggests that the 'appearance' of a substance's condition or status is psychologically linked to perceptions of

reality. Combined, these factors can create mental barriers to the acceptance of reuse water as a source of pure water.

A review of undertaken studies undertaken identified ten factors as contributing to the degree of community acceptance of water reuse options. The review suggests that community acceptance of water reuse is higher when:

- Degree of human contact is minimal.
- Protection of public health is clear.
- Protection of the environment is a clear benefit of the reuse.
- Promotion of water conservation is a clear benefit of reuse.
- Cost of treatment and distribution technologies and systems is reasonable.
- Perception of wastewater as the source of reuse water is minimal.
- Awareness of water supply problems in the community is high.
- Role of water reuse in the overall water supply scheme is clear.
- Perception of the quality of reuse water is high.
- Confidence in local management of public utilities and technologies is high.

In some cases, community acceptance of water reuse may be significantly influenced by regional circumstance. In particular, severe shortage of fresh water supplies is likely to encourage communities to look for alternative supplies. Windhoek in Namibia and Singapore provide two extreme examples. Windhoek suffers from a combination of very low rainfall, high evaporation and limited catchment area. All surface waters within 500 km of the city are fully exploited. Groundwater sources are similarly exploited. Demand management policies have not been sufficient to curb the imbalance between water demand and fresh water supply. The City of Windhoek now recycles water from sewage treatment plants directly to drinking water plants to supply about one third of its potable requirements. This recycling practice is well publicized and recent upgrades of the treatment plant have been launched by the President of the Republic of Namibia, with full media coverage. Comprehensive studies of community attitudes to potable reuse in Windhoek have not been done. However, anecdotal evidence suggests that the community takes considerable pride in their city's ability to overcome environmental adversity and in its role as a world pioneer of direct potable reuse.

There appears to be a high level of stakeholder support for direct potable reuse in Singapore also. The combination of need and belief in the government's ability to effectively address that need is largely credited for the support, Singapore is a small island republic with extremely limited natural fresh water supplies. For many decades, it has relied heavily on its neighbor, Malaysia, for much of its potable water. Such heavy reliance on a foreign country for a resource as crucial as water sits uncomfortably with many Singaporeans. The prospect of secure, self-sufficient water supplies, combined with the respect

afforded to political leadership and government institutions in Singapore, is likely to have been a significant factor in generating support for potable reuse. However, regardless of these regional circumstances, success in building and maintaining community support in Singapore may be partially attributed to persistent stakeholder engagement as well as innovative and extensive community information and education programs. It is apparent that people's acceptance of water reuse schemes varies over time and from locality to locality. Therefore, ongoing studies at the local level will be necessary to keep pace with community sentiment in each instance.

It is clear that schemes involving potable reuse, and particularly direct potable reuse, are likely to be the least acceptable option for many communities. However, there is evidence data that high level of awareness of need for water reuse combined with other advantageous circumstances will encourage some communities to become highly supportive, even proud, of direct potable water reuse operations.

1.3.2. Credibility of Water Reuse Organizations

Success of water reuse projects will largely depend on the credibility of the supplier of information. The credibility of water reuse organizations and its senior managers is as important to the success of the project as the quality of the project itself.

Recent observations suggest that wastewater utilities may be suffering from a general decline in community trust and confidence in civic agencies and officials. Surveys indicate that water and sewerage authorities typically command the least degree of community trust. The medical profession commands the greatest degree of community trust, followed by public health authorities, reputable research institutions, environmental protection agencies and non-government environmental groups. In instances where the community associates a high level of risk with a water reuse project, trust has shown to be maximized when the following conditions are met:

- Dialog is sustained.
- The community has independent sources of information, not linked to the sponsoring agency.
- The community' can ask questions.
- The community is involved early.
- Information is available to everyone.
- Behavior is non coercive. It is considered a reasoned and fair way to make a decision.
- Everyone's opinion matters, and there is a willingness to listen to all views and expand the discussion if necessary.
- Citizens have some level of control in the process (such as by contributing to the agenda or ground rules).

In a study conducted about perception of the public in Beijing. Questionnaires were distributed to randomly selected subjects in 14 public areas across the city during May and June, 2013 to distinguish between preferred public options (public perceptions) versus correct public options (that reveal precise information).

The survey sites covered parks, transportation stops, and housing complexes. The survey was conducted based on the participatory research method. In total, 714 questionnaires were collected. The survey results are highlighted in the below Table (1). The results show how public perceptions tend to vary from reality, which reflects that the supplier organization did not manage to convey and deliver clear message to the community.

Table 1: Survey Results

Question	Preferred option	Correct option
Main water source	Surrounding rivers or reservoirs (56.16%)	Groundwater (24.47%)
Largest field of water consumption	Industry (41.57%)	Irrigation (2.86%)
Water shortage or not	Severe water shortage (75.07%)	Same as preferred option
Main wastewater source	Industrial wastewater (54.58%)	Domestic water (39.73%)
Where municipal wastewater goes	Sewage treatment plant (70.12%)	Same as preferred option
Sewage needs treatment or not	Yes (97.47%)	-
Household waste water or not	No (71.07%)	-
Community waste water or not	Yes (63.59%)	-
Be able to reduce water consumption	Yes (78.96%)	-
Would like to reduce water consumption	Yes (81.07%)	-
Would like to pay for water treatment	Yes (73.88%)	-

1.4. Communication of Water Reuse Organizations with Stakeholders

This Section highlights the importance of effective communication, including timing and how to build community confidence, and the importance of aligning the community's perception of risk.

1.4.1. Defining and identifying successful communication

The degree to which a communication effort has been successful must be judged according to its objectives. Specific objectives may vary depending on particular circumstances. A very basic objective may be to inform stakeholders about water reuse. The objective of a more complex communication strategy may be to provide stakeholders with sufficient knowledge that would help in shaping their perceptions (religion and cultural beliefs) to enable constructive engagement in a public discussion and to create a common understanding (perception) or to effectively manage conflict. Some objectives of communication strategies may be more outcomes focused such as to encourage stakeholders to become more supportive of a reuse proposal or even to accept a proposal whether they support it or not. In most circumstances, a successful

communications program will contain strategies that allow stakeholders to study the evidence and draw their own conclusions about water reuse. They will be able to see both the decision-making process and the decisions themselves as being transparent and fair. A successful communications program will also engage stakeholders to share responsibility for solving the water supply or wastewater disposal problem.

1.4.2. Early and continuous communication

The timing of communication activities can be of equal importance to their substance. Community confidence and trust can only be built over time. Therefore, rollout of a successful communications program will ideally begin as a component of the broader resource planning effort when the potential to develop a reuse project is being considered. Taking this approach will help develop community confidence and trust within what is likely to be a neutral environment, outside the context of an imminent, controversial plan. The supply of information to stakeholders will need to coincide with major decisions made by water reuse organizations and other relevant bodies. It will also need to coincide with the outcomes of other communication processes. It is important that stakeholders first hear of major developments, be they positive or negative, from the project managers. Delays in passing on information may give rise to rumors. Increase levels of concern and cause stakeholders to question the organization's motives and intentions. Such reactions will greatly undermine stakeholder trust and be detrimental to the project.

1.4.3. Listening and seeking clarification

It is important for communication to be established as a two-way flow between the reuse organization and all stakeholders as soon as the decision to seriously consider a project has been made. With that decision comes the beginning of a learning process that will ensure stakeholders' engagement, and will continue throughout the life of the project for everyone involved. Two crucial characteristics of effective communication are listening and seeking clarification. By providing readily accessible listening and feedback opportunities, water reuse organizations can monitor the concerns and opinions of their stakeholders. Surveys, internet and telephone hotlines provide effective avenues for such communication strategies. Other approaches such as holding informal open-house events, public forums and focus group meetings increase the dimension of opportunities to listen to stakeholders.

1.4.4. Risk communication

An essential component of any communications program is risk communication. Historically, the major goals of risk communication have been to align the community's perception of risk with that of the risk experts and to reduce the fear and community resistance of risk-related technology. However,

for projects that are politically controversial, the current notion is that risk communication should focus on more basic matters. These include a society's values concerning procedural fairness, the way in which society makes judgments and reaches decisions, and the fairness with which risks and benefits are distributed across different sectors of the community. Fundamental to successful risk communication is the willingness of all stakeholder groups to respect the views of others and for all concerns to be included in the decision making process.

The United States Environment Protection Agency promotes seven steps to successful risk communication:

- **Accept and involve** the community as a legitimate partner.
- **Plan carefully** and evaluate your efforts.
- **Listen** to the community's specific concerns.
- **Be honest**, frank, and open.
- **Coordinate and collaborate** with other credible sources.
- **Meet the needs** of the media.
- **Speak clearly** and with compassion.

1.5. Identifying key messages to stakeholders

By engaging stakeholders in any decision-making process, a water reuse organization is asking them to make informed judgments. Hence it is essential that an education program will need to form part of the overall communications program to enable such judgements to be made. Communication managers will have to determine the extent to which stakeholders need to assimilate new information and become familiar with the various abstract and technical concepts before being able to make those informed judgments. Water reuse is a relatively new concept for many communities. Therefore, its value must be presented in simple, but compelling terms. Positive key messages about water reuse will reinforce community' acknowledgement of its benefits for people and the environment. Many of the key messages are universal. For communities that are subject to severe drought and unreliable water supplies, the emphasis will be on promoting water reuse as a source of alternative supply. The first step of the communications program will be to let stakeholders know that there is a serious, long-term water shortage problem that is in urgent need of being addressed.

Stakeholders must be assured that the problem will be addressed, reasonably and sympathetically, by the appropriate organization. In other instances, the search for viable alternatives to wastewater discharge will be the main driver of a water reuse program. A vulnerable marine environment or riverine system that has been significantly impacted by wastewater disposal provides a powerful argument for water reuse. Prominent stakeholders such as a local surfing community and some sectors of the tourism industry are likely to find in favor

of reuse as an alternative to disposal and prove to be powerful activists for the proposal.

The following is a presentation of key messages for the promotion of water reuse activities. The messages are presented in general terms so that they may be widely applicable. However, in many cases, important local issues will prevail and key messages may need to be tailored to specific groups of stakeholders.

1.5.1. Water reuse organizations earn their good reputation

Although it is possible to raise community awareness of water treatment technologies, it is not realistic to expect a layperson to fully understand the intricate details of treatment processes and risk. At some point, the community will need to place its trust in the water reuse organization to protect public health and the environment. No amount of reassurance about levels of treatment and monitoring can overcome a lack of trust in the organization itself.

It is important for water reuse organizations to communicate good reasons why it is worthy of a community's trust. Since trust must be built up over time, a good reputation is the strongest argument for on-going trust. The water reuse organization should seek to remind the community of past circumstances, or an on-going history, where trust placed in it has proved to be warranted. If necessary, bringing third parties might also improve trust in reuse organizations.

1.5.2. The reuse project has a critical need and clear purpose

The burden would lie on the water reuse organization to make an effective case for clear need for the project. This should be communicated in terms of the project's role in the overall water management strategy in the service area. During prolonged periods of drought, communities can become acutely 'water aware' and inclined to support innovative, non-conventional water management strategies. However, collective memory can be short. Once droughts break and the impetus is lost, water reuse organizations may find the task of convincing stakeholders of the need for water reuse to be considerably more difficult. Raising and maintaining community awareness of the importance of the underlying issues and the role that water reuse has in addressing those issues should remain a high communication priority.

1.5.3. Reuse water is safe for its intended uses

Safety should be promoted as the utmost concern of the water reuse organization. It may be appropriate to highlight an excellent or unblemished safety record for water reuse in the particular region or for the planned applications. Performance histories, including maintenance and accident records, are important factors that will influence community judgement of reuse water as

a safe and reliable product. The community should be informed that water reuse schemes operate according to strict public health and safety guidelines that have, in many cases, been approved or endorsed by health services. It is also important to emphasize that the health-related aspects of an operation are closely regulated and overseen by appropriate authorities. Furthermore, it should be noted that the relevant health departments are extremely cautious and rigorous in setting water quality standards and criteria for reuse water and for water reuse systems. It is often helpful to point out that the process followed in treating water for reuse closely mimics the way nature cleans water, but the engineered process is much faster and more controlled. The technology for producing water suitable for reuse has dramatically improved over time, ensuring that reuse water remains a safe and valuable resource. If further information is deemed appropriate, jargon-free descriptions of water treatment processes should be offered.

1.5.4. Water reuse helps conserve drinking water supplies

Water is in short supply in many parts of the world. Increasing populations, coupled with the occurrence of drought, makes future water supply reliability a major concern. Water conservation efforts help but are often not enough to offset increased demand.

In many instances, the role of a water reuse scheme in conserving drinking water supplies may not be obvious to the community. For example, it may be necessary to point out that every industrial process that reuses water instead of sourcing fresh water from a potable supply stretches the local fresh water supply by the equivalent amount and helps 'drought proof the community.

1.5.5. Water reuse may have significant positive economic impacts

Economic implications of a water reuse scheme are important to stakeholders on two levels. First, stakeholders will want to be satisfied that public funds are to be spent responsibly and reap optimum returns. Second, many stakeholders will have a more personal interest in the economics of the scheme. As a reliable source of water for industry or agriculture, water reuse schemes may have a substantial positive impact on a local economy. Such advantages are likely to be enthusiastically embraced by the community and should be broadly promoted. Water reuse can protect public and private investment in parks and landscaping enterprises since it is available in times of drought. Where reuse water is to be reticulated as an alternative supply to households, personal economic incentives may be attractive. In most current 'dual-reticulated' schemes, reuse water is sold to households at a lower price than potable water.

Consequently, its use for approved applications may substantially reduce the overall water expenses for many households.

1.5.6. Water reuse is preferable to alternative options

Unless there are communications programs in place that promote the reasons for a preferred water management strategy, the argument has the potential to divide a community. The most favorable approach is to communicate the advantages and Disadvantages of all the options and demonstrate how the preferred option is the most suitable. In many cases, it can be useful to remind the community that there are two major water management issues to be addressed. One is to overcome impending shortages of supply. The other is to limit the environmental implications of continuing to dump ever increasing volumes of treated sewage into the world's rivers and oceans. Only water reuse can meet these challenges simultaneously.

1.5.7. Water reuse is successfully practiced in many other places

A skeptical community may be reassured if informed of the enduring success that a growing number of other communities are having with water recycling projects similar to that being proposed.

1.6. Case Study: Innovative Sanitation Solutions and Reuse in Arid Regions in Jordan

Inadequate sanitation systems in Jordan affect both host and refugee communities and pollute the scarce water resources of the country. At the same time reusing treated wastewater could relieve pressure on water sources and make much needed nutrients and irrigation water available for agricultural production and local economies.

The “Sanitation Solutions for Underserved Communities in Jordan” project (ISSRAR) seeks to contribute to reducing existing environmental risks related to unsafe sanitation practices, creating better living conditions from an environmental, public health and economic perspective and thus improving the resilience of local populations. By realizing a showcase sustainable sanitation system in Azraq, the project aims at establishing replicable examples for other parts of Jordan.

In January 2018, the ISSRAR consortium conducted a Governance Workshop inviting different stakeholders, professionals and decision makers from the Jordanian sanitation sector. The governance framework is crucial for the successful extension of sanitation serviced by ISSRAR in order to establish communication channels with stakeholders as the projects needs to:

1. Be compliant with the legal framework.
2. Align with existing systems to use opportunities.
3. Understand key constraints that could prevent the implementation of sustainable solutions.

Following such an understanding, the workshop used a participatory assessment approach to tap the knowledge of sector experts to analyze key governance areas related to wastewater management, wastewater/sludge/bio-solids reuse, financing of wastewater management, service provision and cooperation in wastewater management. The discussion related for example to which regulations or standards are currently in place, successful and challenging set-ups of responsibilities between different agencies, how ISSRAR can better access information and partnerships. The ISSRAR project is now carefully taking up all the workshop results and integrating them into its implementation strategy. Continuous collaboration with experts of this workshop is envisaged and considered as very valuable for its success.



Figure1: Using the participatory approach to improve sanitation solutions in Jordan



Figure 2: ISSRAR Governance Assessment Workshop

1.7. Conclusions

When developing a communications program, it is essential that the knowledge, attitudes and perceptions of stakeholders, as they relate to the full strata of physical, emotional, and social issues relating to water reuse, be understood, acknowledged and addressed.

Effective two-directional communication enables water reuse organizations to develop an understanding of their stakeholders. The profile, encompassing stakeholders' views, concerns and expectations will inform a water reuse organization's subsequent decisions. It will provide project managers with a clearer picture of the communication strategies required for successful outcomes. It will also help them determine how and where to best invest a communication budget for the greatest return. A successful communications program can over time, establish an informed community that is comfortable with the concept of water reuse, knowledgeable about the issues involved and supportive of the program to be implemented. Communication builds trust between organizations and stakeholders. The level of trust in an organization has a major influence on the level of community support for proposed water reuse projects.

Ten key communication messages have been identified in this study. They encompass a range of social, environmental and economic issues of interest to stakeholders. The principal goals of the key messages are to promote the benefits of water reuse schemes and to allay community fears.

Module 2: Methods to understand, analyze and consider women and men interests' when formulating reuse projects and policies

2.1. Learning Objectives are to:

- Understand the differences between women and men interests' when formulating reuse projects and policies.
- Define what is meant by Gender Inequality.
- Understand the relevance for differences between men and women.
- Understand the importance of incorporating gender perspectives in policy analysis.
- Know the key questions that have to be asked when formulating a water re-use project?

2.2. Introduction

It is very important to understand the differences between women and men interests' when formulating reuse projects and policies. In most societies, women have the primary responsibility for the management of household water supply, sanitation and health. Water is necessary not only for drinking, but also for food production and preparation, care of domestic animals, personal hygiene, care of the sick, cleaning, washing and waste disposal. Because of their dependence on water resources, women have accumulated considerable knowledge about water resources, including location, quality and storage methods for domestic water. However, efforts geared towards improving the management of the world's finite water resources and extending access to safe drinking water and adequate sanitation, often overlook the central role of women in water management.

2.3. How and why gender differences and inequalities are relevant in a specific situation

A study by the International Water and Sanitation Centre (IRC) of community water and sanitation projects in 88 communities in 15 countries found that projects designed and run with the full participation of women are more sustainable and effective than those that do not. This supports an earlier World Bank study in 2015 that found that women's participation was strongly associated with increased effectiveness in water and sanitation project.

- **Inequalities in political power (access to decision-making, representation, etc.):** Women are under-represented in political processes throughout the world. It is important to look at and understand gender differences in power within formal decision-making structures (such as governments, community councils, and policy-making institutions). Given the underrepresentation of women and the low visibility of women's perspectives, the fact that women often have different priorities, needs and interests than men is often

not apparent. National, regional or sub-regional priorities, or even the specific needs and priorities of a community, are often defined without meaningful input from women.

- **Inequalities within households:** Inequalities in negotiating and decision-making potential and access to resources have been documented within households. This has prompted questions about both research and policy which is based on the assumption that households function as units where each member benefits equally. The investigation of differences and inequalities at the household level is relevant to an understanding of a range of key issues, including the ability of women and men to respond to economic incentives, and appropriate and equitable social security policies.

- **Differences in legal status and entitlements:** Despite national constitutions and international instruments that proclaim equal rights for women and men, there are many instances in which equal rights to personal status, security, land, inheritance and employment opportunities are denied to women by law or practice. Addressing the resulting constraints for women is important as an end in itself, but it is also essential for formulating effective national strategies for increasing economic productivity and growth, reducing poverty and achieving sustainable resource management. Action to secure women's rights is not just a concern of a small group of women activists, but rather the responsibility of the international community as a whole.

- **Gender division of labor within the economy:** In most countries, women and men are distributed differently across manufacturing sectors, between formal and informal sectors, within agriculture, and among occupations. Women are also more likely than men to be in low-paid jobs and "non-standard" work (part-time, temporary, home-based), and likely to have less access than men to productive assets such as education, skills, property and credit. Within the water reuse sector, most of the senior positions are occupied by men. These patterns mean that economic trends and economic policies are likely to have different implications for women and men. For example, trade liberalization has had uneven impacts by sector, with consequences for both gender equality and economic growth that have only recently become the subject of investigation.

- **Inequalities in the domestic/unpaid sector:** In many countries, as it is women who shoulder most of the responsibilities and tasks related to the care and nurturing of the family (including laundry, food preparation, childcare, care of the sick and cleaning). Similarly, in many countries in the South, women also make an important contribution to family food production and water and firewood provision. These tasks add to women's workload and are often

an obstacle to engaging in political action or expanding economic activities. Recent research has sought to demonstrate the relationships between this “reproductive work” and the “productive” sector of the economy - in particular the dependence of all productive activities on the creation and maintenance of a healthy labor force through this work at the household level, and the way in which the reproductive sector can be affected by the consequences of economic policies related to trade, investment and public expenditure. There has been an important shift from focusing on how economic policies have affected welfare in a gender-specific manner, to illustrating how gender biases negatively affect the outcome of these same economic policies.

Such discriminatory attitudes trigger gender inequalities, which are not only economic, but are also reflected in other ways that are difficult to measure and change. Ideas about appropriate behavior, independence, and aptitudes are often grounded in gender stereotypes and vary for women and men. Ideas and practices tend to reflect and reinforce each other (the one providing the rationale for the other), which contributes to the complexity of achieving change.

Thus, Gender equality is the equal visibility, opportunities and participation of women and men in all spheres of public and private life; often guided by a vision of human rights, which incorporates acceptance of equal and inalienable rights of women and men. Gender equality is not only crucial for the wellbeing and development of individuals, but also for the evolution of societies and the development of countries. However, gender equality is not yet a fact and although important progress is made (e.g. regarding universal school enrolment, women’s access to the labor market, and women gaining political ground), gender inequality is one of the most pervasive forms of inequality worldwide. The access to clean water and basic sanitation has been declared a basic human right and it is essential for achieving gender equality, sustainable development and poverty alleviation.

2.4. Incorporating Gender Perspectives in Policy Analysis

The formulation of a national water strategy can be taken as an example. At one level the strategy is about water resources - how water is collected, used, protected, monitored, and contaminated, and how to ensure future supply. At another level it is about the users - their specific uses, their rights and access to and control over water resources and their involvement in decision making. A gender perspective raises questions about: Whether or not women’s and men’s uses (for both domestic and economic use) and priorities for water are different. It is important that there is analysis of sex-disaggregated data on uses, access to water, priorities, etc. (which may require steps to ensure that such data is regularly collected and analyzed). It is also critical to ensure a consultation process that seeks the inputs of women as well as men in iden-

tifying uses and priorities; Whether or not various policy options will affect women and men differently -- for example, how would different approaches to water pricing affect poor women in comparison with poor men? What options would have the most equitable distribution of costs and access?

To be more specific, it is very important to ask the following questions when formulating a national water strategy or any strategy for water reuse in order to be able to capture the differences in women and men interests:

1. Ask questions about the responsibilities, activities, interests and priorities of women and men, and how their experience of problems may differ. Consider possible differences and inequalities between women and men and how and why they could be relevant to the issue. While each situation or issue should be examined on its own merits, the process should begin with reflection on the gender factors that could relate to the problem or issue (in other words, how and why gender differences and inequalities are relevant) and that therefore require further investigation. A set of factors to consider is provided below under "General issues and trends".

2. Question assumptions about "families", "households" or "people" that may be implicit in the way a problem is posed or a policy is formulated. Studies have shown, for example, that "people" respond to economic changes in gender-specific ways because gender is a major influence on their access to resources, responsibilities and alternatives. Research has also shown that resources are not necessarily distributed equitably among household members, nor is there equitable decision-making about the use of these resources. Ignoring these factors may result in misleading analyses of issues or inaccurate assessments of likely policy outcomes.

3. Obtain data or information to allow the experiences and situation of both women and men to be analyzed. Sex-disaggregated data should be used at all times to gain a more informed understanding of an issue or situation and to allow gender differences and inequalities to be identified and addressed. For example, there is a better basis for developing agricultural policy and targeting extension programs if there is information that goes beyond the number of "farmers" and what they produce. Disaggregating this data by sex, and asking questions about who produces what, would not only provide information on the number of women and men farmers, but would also allow for assessments of whether there are differences and inequalities.

4. Seek the inputs and views of women as well as men about decisions that will affect the way they live. There are often significant differences between women and men on priorities. For example, in a post-disaster situation women may place immediate priority on clean water and shelter while men may

prioritize the re-establishment of economic activities. This is not to say that one priority should be privileged over another, but that there should be an awareness (obtained through specific investigation) of the potential differences between women and men so that all issues can be factored into an understanding of a situation. Since women's participation in decision making is generally lower than that of men, specific strategies are generally required to ensure that women's voices are heard.

5. Avoid assuming that all women or all men share the same needs and perspectives. There are differences among women and among men that relate to class, religion, age, ethnicity and other factors. Women and men are not homogenous groups. It is important not to generalize across diverse populations, but rather to consider the ways that needs and perspectives of individuals are influenced by a range of factors, including gender. Analyze the problem or issue and proposed policy options for implications from a gender perspective and seek to identify means of formulating directions that support an equitable distribution of benefits and opportunities. Given gender differences and inequalities within societies, it cannot be assumed that women and men will have equal opportunities for participation or will benefit equally from development inputs. Special attention is needed to ensure that initiatives are not assumed to affect all people in the same manner, as this could unintentionally increase gender inequality.

2.5. Case Study: Women and Water in Egypt - Agricultural vs. Domestic Use

The roles of women and men in relation to water differ worldwide and this is also the case for Egypt. Men typically require water for irrigation works, raising large livestock or growing and harvesting crops. Usually women and girls collect all water for domestic use, such as cooking, washing and cleaning. The water needs of women are also used for home repairs (brick making), and food production. But due to increasing economic hardship forcing many men to seek additional employment beyond their fields, women increasingly got involved in regular irrigation and agriculture work, even if this is not yet fully accepted in traditional communities such as those in Upper Egypt. Although females are the prime water users worldwide and although females are responsible for over 60 percent of the agriculture production, women are still marginalized when it comes to decision making in agriculture production and irrigation management. *Although females are represented in Water User Associations in some areas in Upper Egypt (e.g. Fayoum), nevertheless, they are still not participating on an equal level to their male counterparts.* (ESCWA. (2018), Women, Water & the Sustainable Development Goals in the Arab Context, Symposium on Women and Water Security for Peacebuilding in the Arab Region Beirut, Lebanon, 9-10 May 2018).

Similarly, women and girls spend up to four or five hours per day carrying heavy water containers that can result in acute physical problems. Carrying heavy water containers that can result acute physical problems. The total time spent collecting water can be up to 10 hours per day. As a result, the time spent collecting water takes away from the education of women. Further, they miss opportunities for income generation and social participation, further widening the gender gap. In addition to that, lacking appropriate sanitation services and hygiene education leads to millions of deaths each year, especially among the ranks of women and children who are most exposed to lacking sanitation services in their houses (Idem).

Looking at water management as a process of planning operation, and management, women certainly take a leading decision- making role in these three stages when it comes of domestic water use within the circle of her core family. Although she usually supports men in agriculture related activities such as animal feeding, exhausting irrigation works are still to a large extent a domain of rural men. Only if women are land owners themselves, they usually take over decision-making responsibility for all agriculture and irrigation related operations. But even in this case women in Upper Egypt often rely on their male relatives or neighbors to represent them when problems occur, since irrigation problems naturally affect farmer groups rather than individuals only. Women are also increasingly represented in participatory water use associations and take a leading role in their communities with regard to environmental awareness for better water quality and less water pollution. However, in many countries such as Egypt women face obstacles to increasing their active participation in such bodies. Thus, a project funded by the Government of the Netherlands was implemented to increase the representation of women in Water Use Associations to ensure that the needs of women are reflected in the decisions of the Water Use Associations.

2.6. Conclusion

- Gender equality is the equal visibility, opportunities and participation of women and men in all spheres of public and private life.
- Differences between Women and Men are Relevant mainly women are more likely than men to be in low-paid jobs and “non-standard” work (part-time, temporary, home-based). Moreover, Women shoulder most of the responsibilities and tasks related to the care and nurturing of the family.
- There are important specific questions that have to be asked when formulating a project to ensure incorporating gender perspective.

Module 3: Introduction of the Concept of gender mainstreaming in water and sanitation and why Gender is Central to Water and Sanitation?

3.1. Learning Objectives are to:

- Introduce key gender concepts and gender mainstreaming.
- Operationalize gender mainstreaming.
- Draw lessons learned from gender mainstreaming.
- Understand Gender implications for domestic water and sanitation.
- Understand the importance of mainstreaming gender in water and sanitation.
- Fulfill international commitments by governments and partners.
- Highlight the importance of having accurate analysis for water reuse.

3.2. Introduction

In the area of water resources management, an uncoordinated and sectoral approach has resulted in environmental degradation from overexploitation of water resources. Inappropriate allocations among competing uses, inequitable distribution of benefits and burdens, and inadequate operation and maintenance of infrastructure. Similarly, inadequate involvement of both women and men has hindered programs and projects aimed at addressing sustainability in water resources management. Community participation and management approaches have failed to address these issues, largely because communities are often seen as a collection of people with a common purpose.

The reality is that a community is not a collection of equal people living in a particular geographic region. It is usually made up of individuals and groups who command different levels of power, wealth, influence and ability to express their needs, concerns and rights.

Communities contain competing interest groups. Where resources are scarce, there is competition for supplies, and those at the lowest end of the power spectrum - poor women and men - will go without. Unequal power relations place women in a disadvantaged position. Applying a gender analysis helps water sector agencies allocate their resources better to meet the needs of different women and men and marginalized groups.

People-centered approaches do not always ensure that gender perspectives are taken into account. Thus, a deliberate strategy of gender mainstreaming can be useful to ensure that these issues that affect women and men are part of analysis, program and project planning, implementation, and evaluation. More importantly, gender mainstreaming can assist in bringing about institutional and organizational change necessary to ensure gender equality as an on-going commitment.

3.3. Key Gender Concepts

This section highlights key concepts relating to gender mainstreaming. Such an understanding is an important backdrop to the achievements and challenges in mainstreaming gender in the water and sanitation sector.

Sex and gender: Gender refers to those characteristics of men and women that are socially determined, in contrast to those that are biologically determined. People are born male or female, but learn to be boys and girls who grow into men and women.

Gender mainstreaming: The UNDP defines gender mainstreaming as: “Taking account of gender equity concerns in all policy, program, administrative and financial activities, and in organizational procedures, thereby contributing to a profound organizational transformation”.

Similarly, SIDA defines gender mainstreaming as: “the process of assessing the implications for women and men of any planned action, policy or programme, in all areas and at all levels before any decisions are made and throughout the whole process”.

It is important to note that there is a major link between SDG5 related to achieving gender equality and empower all women and girls and SDG6 related to ensuring availability and sustainable management of water and sanitation for all as women are a major user for water and sanitation, and water use for sanitation and domestic purposes, which tends to be the responsibility of women.

3.4. Principles of Integrated Water Resources Management and their Gender Implications

3.4.1. Principles of Integrated Water Resources Management

Integrated Water Resources Management (IWRM) is a systematic process for the sustainable development, allocation, and monitoring of water resources. IWRM is a cross-sectoral holistic approach to water management, in response to the growing competing demands for finite freshwater supplies. It is an approach that aims to ensure the coordinated development of water, land and related resources to optimize economic and social welfare without compromising the sustainability of environmental systems. Policy makers, analysts, international organizations and governments have sought consensus on principles to guide the setting of priorities, policy making and the elaboration of specific initiatives in IWRM.

IWRM offers an opportunity to create a paradigm shift in water resources management. The global environmental crisis, growing poverty in urban and rural

areas, and continued gender inequalities all point to the need for a different governance approach to water use and management.

Applying this approach requires cohesion among the different institutions, policy, and regulatory frameworks and deliberate measures that take account of environmental sustainability and an intersectional analysis. Gender in this context is not a sufficient point of analysis without also considering intersecting identities of race, class, caste, ethnicity, age, ability, and geographical location.

3.4.2. Gender Implications

The following highlight the gender implications that result from applying IWRM:

1. The treatment of domestic water as an economic, social, and environmental good.
 - Freshwater is valuable and limited. Water supply services and infrastructure are economic activities, while at the same time, access to basic water supply is a fundamental human right. Water use for sanitation and domestic purposes, which tends to be the responsibility of women, is incorporated into the assessments of economic values of the use of water. However, in most cases women have no rights to land and water.
 - While it is desirable for water supply to be paid for, it is also important to take into account people's ability to pay. Women's interests and gender relations are often overlooked. If charges for domestic water supply have to be paid, both men and women should be involved in determining the rates. Even though women often do not have control over cash, they are still expected to pay for water and sanitation, more than men, because they are the main users and it is considered their responsibility. A gender and social equity analysis of demands is required.
2. Focusing on the management of domestic water and not just on the provision of water in water policies.
 - Governments and local stakeholders are the key actors in water management. The private sector play a role in providing water supply services for greater efficiency. National governments need to retain responsibility for oversight of water quality and for regulating and monitoring private providers. The government is also responsible for ensuring that the water supply needs of the whole population are met. Companies solely interested in making a profit will not be concerned about low income households, domestic water users and those who use water sources and water catchments for their basic necessities of life. Women are heavily represented in these categories.
 - With increased privatization, capacity building of local communities be-

comes more important, and it should be ensured that women and men benefit equally from capacity building initiatives.

3. Governments to facilitate and enable the sustainable development of domestic water resources through the provision of integrated water resources policies and regulatory frameworks.

- Holistic water management is needed because actions taken in one water sector have an impact on water availability, quantity and quality in another. Such impact is different for men and women, between and even within households, and according to sex, age and status.
- At higher levels coordination within countries and ministries is necessary, including coordination at sub-national levels, and women's interests and rights need to be taken into account.

4. Managing domestic water resources at the lowest appropriate level.

- Participation by all stakeholders leads to better water management. Because of women's traditional roles in water resources management, they have knowledge which should be included in planning and practice.
- The lowest level is most important to ensure that decisions are supported by those who implement water projects on the ground. These are often women. Female-headed households tend to have less bargaining power in communities than male-headed households. A specific effort to include them is needed.

5. Both women and men are recognized as central to the provision, management and safeguarding of domestic water.

- Campaigns to reduce water wastage should target men and women and especially industries and institutions for waste water.
- Women's skills and knowledge are crucial for the effective and efficient management of water, thus it is important to capitalize on women for changing cultural norms.
- More attention is needed to control pollution and to improve water quality and sanitation for the benefit of women who collect domestic water and to improve health.

3.5. Importance of Mainstreaming Gender in Water and Sanitation

3.5.1. Increase the effective and efficiency of water sector programs and projects

Involving both women and men in integrated water resources initiatives can increase project effectiveness and efficiency.

Participation by both women and men improves project performance and improves the likelihood of sustainability. In other words, a project is more likely

to achieve what planners hope it will achieve if women and men (both rich and poor) are active participants and decision makers. In addition to a vast body of anecdotal evidence, two specific studies have looked at this issue: Voice and Choice for Women - Linkages on Demand, Gender and Poverty from 44 Water Schemes in Asia and Africa. A research project of the UNDP/World Bank Water and Sanitation Program in 2001 :Preliminary findings appear to validate the hypothesis that water services will be better sustained and used by the communities if institutions and policies enable the communities (men and women, rich and poor) to initiate the service, take informed decisions about the type of service management and financing systems and build capacities to maintain and manage the services so that burdens and benefits are equitably shared. A World Bank review of 121 rural water supply projects: This review found that women's participation was among the variables strongly associated with project effectiveness. Furthermore, it was found that the failure to take gender differences and inequalities into account can result in failed projects. For example, in India, compost pits located outside villages went unused, and women continued to deposit waste near their homes - even when fined for doing so - because they did not wish to be seen carrying loads of refuse to the outskirts of the village. If there had been consultation with women, perhaps this problem could have been avoided.

3.5.2. Increase the chance of environmental sustainability

Women and men around the world play distinct roles in managing plants and animals, in use of forests, drylands, wetlands and agriculture. Moreover, gender roles are differentiated in collecting water, fuel, and fodder for domestic use, and in generating income. Due to their distinctive engagements with the natural environment, women's experience and knowledge are critical for environmental management (UNEP, 2004). Using a gender perspective and enabling the integration of women's knowledge of the environment will increase the chances of environmental sustainability. A watershed management project was initiated in a fragile area of a cloud forest in Mindanao, Philippines. A lake used to generate electricity was silting up from deforestation and soil erosion. There was a need to reduce soil loss and to engage local institutions in monitoring soil loss and soil recovery. The project first invited young men to monitor the water to determine whether the techniques being used for soil conservation were reducing the silting. However, the men were not consistent in monitoring. Women farmers, as well, were brought in to monitor the water without much success. The project then determined that women were more interested in health issues than soil loss. As women learned about how water quality affected the health of their families and the program expanded to include monitoring for E.coli bacteria, women became interested and participated. This led to their further engagement in a wider range of environmental activities. Ultimately, the community's involvement led to positive outcomes,

such as an increase in the adoption of soil conservation techniques by both men and women farmers (Diamond, et. al., 1997).

3.5.3. The need for an accurate analysis of water resources use

Social and economic analyses are incomplete without an understanding of gender and social differences and inequalities. With a gender analysis, planners gain a more accurate picture of communities, natural resource uses, households and water users. Understanding the differences among and between women and men (who does what work, who makes which decisions, who uses water for what purpose, who controls which resources, who is responsible for different family obligations, etc.) is part of a good analysis and can contribute to more effective results.

The differences and inequalities between women and men influence how individuals respond to changes in water resources management. Understanding gender roles, relations, and inequalities can help explain the choices people make and their different options. In Alto Piura, Peru, female farmers complained that they always had to irrigate at night, in spite of the official rule that night turns should be equally distributed among irrigators. Since male irrigators had better relations with the irrigators' committee and with the water delegate, they were often more successful in negotiating day turns. If a project aims to provide all irrigators and farmers with equitable access to water resources, then strategies are required to deal with this specific difficulty faced by women. Gender relations and inequalities influence collective responses to water resource management issues. Women and men tend to organize in different ways. Thus, there is a need to collect gender disaggregated data and conduct thorough analysis. Women often face specific obstacles to participating in a project, joining a water-users committee, or providing input into a consultation session.

Poor women are less likely to be elected to positions on water committees or village development committees. When asked about the criteria used to elect people to positions of responsibility in the village, interviewees in Zimbabwe repeatedly mentioned two qualifications: i) someone they could respect (for position, influence, hard work or ability to forge consensus over difficult issues), and ii) someone with resources such as a bicycle or cash who could represent the village at district headquarters when required. In addition to not meeting those qualifications, poor women generally have greater constraints on time and labor resources than other women or men. They and their children are likely to be in poorer health and they therefore could benefit most from improvements that bring water supplies closer to their homes. However, they are least likely to participate in the collective decision making that will bring this about.

3.5.4. Ensure the realization of gender equality, equity and empowerment

Without specific attention to gender issues and initiatives, projects can reinforce inequalities between women and men and even increase gender disparities. Although many initiatives are thought to be 'gender neutral', this is rarely the case. Projects and programs often bring new resources (training, tools, technology, etc.). Whether someone is male or female can influence whether he or she can take advantage of these opportunities. Programs need to enable both women and men to benefit equally from water initiatives. Gaps between rich and poor women can often increase as a result of development interventions. An initiative can also serve to reinforce existing inequalities, even when there may be opportunities to help support people's efforts to build more equitable societies and economies. The importance of specific attention to gender and diversity issues is all the more critical given the generally low profile of these issues among many water professionals.

3.5.5. Fulfillment of international commitments by governments and partners

Governments and development agencies have made commitments to support equality between women and men and to use a gender perspective in all programs and projects, including those related to water and the environment. Specific commitments include:

- The results of and follow-up to the International Drinking Water Supply and Sanitation Decade (1981-1990) were discussed in consultations in New Delhi in 1990. Although these consultations were limited on the discussion of gender issues, there was a clear call for an increase in women's decision-making and management of water resources.
- The Dublin Statement (1992), endorsed by over 100 countries, recognizes that women play a central part in the provision, management, and safeguarding of water resources. It recognizes the pivotal role of women as providers and users of water and guardians of the living environment and for this reality to be reflected in institutional arrangements for the development and management of water resources.
- Principle 20 of the Rio Declaration (1992): It states, "Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development".
- The Beijing Platform for Action (1995): It highlights that environmental issues as one critical area of concern - "gender inequalities in the management and safeguarding of natural resources and in the safeguarding of the environment". Three strategic objectives were agreed: (1) To involve women actively in environmental decision making at all levels; (2) To integrate gender concerns and perspectives in policies and programs for sustainable development; and (3) To strengthen or establish mechanisms to assess the impact of development and environmental policies on women.

- The Johannesburg Plan of Implementation of the 2002 World Summit on Sustainable Development (WSSD), para 25(a): It includes agreement by governments to: "... support capacity building for water and sanitation infrastructure and services development, ensuring that such infrastructure and services meet the needs of the poor and are gender sensitive".
- In December 2003 the General Assembly proclaimed (resolution 58/217), the period 2005 to 2015 as the International Decade for Action, 'Water for Life', and called for a focus on the implementation of water-related programs and projects, "whilst striving to ensure women's participation and involvement in water-related development efforts".
- The Millennium Development Goals: It have the same time frame as the 'Water for Life' Decade, include 2015 targets on gender equality and empowerment of women, as well as on safe water and sanitation.
- The Sustainable Development Goals: SDG 6.2 stipulates that: "by 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations".

3.6. Mainstreaming Gender in Water Management

Gender mainstreaming is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres so that women and men benefit equally, and inequality is not perpetuated.

Operationalizing gender mainstreaming involves:

- Understanding the gender-differentiated systems for access to resources, labor, water uses, water rights, and the distribution of benefits and production. Sex-disaggregated data and the documentation of unpaid labor are important.
- Focusing on gender relations, not just women. Although many analyses draw attention to women (since it is generally women who face disadvantages and women's views that tend to be overlooked), a gender analysis looks at the relations (differences, inequalities, power imbalances, differential access to resources, etc.) between and among women and men and how these are negotiated. The position of women cannot be understood in isolation from the broader relationships between women and men.
- Understanding that gender is a factor that influences how people respond both individually and collectively. Men and women face different obstacles and draw on different resources when attempting to participate on a water committee, confront a local official or attend a training session.
- Understanding the gender dimensions of institutions at all levels in society (within the household, community-based organizations, water users associations, local governments, national civil services, etc.). These for-

mal and informal institutions play fundamental roles in water resources management, yet they have gender dimensions: Who makes what decisions? Does the structure facilitate or hinder women's participation? Is there the capacity to reduce inequalities between women and men in the institutions? How are different needs and perspectives negotiated inside institutions? Are institutional policies developed in an inclusive and gender-sensitive manner?

- Confirming or rejecting assumptions in each specific context, ideally using participatory methodologies. Assumptions from one country or project cannot be carried over into another region or initiative. Furthermore, power relations, working arrangements, and resource availability can change over time. The specificity of each situation must be investigated.

3.7. Lessons Learned from Gender Mainstreaming

The World Bank has brought the research and experience from its own extensive operations in water and sanitation together in a tool kit. It summarizes the lessons of experience in this area as follows:

- Gender is a central concern in water and sanitation.
- Women's participation improves project performance.
- Specific, simple mechanisms must be created to ensure women's involvement.
- Attention to gender analysis should start as early as possible.
- Gender analysis is integral to project identification and data collection.
- A learning approach is more gender responsive than a blueprint approach.
- Projects are more effective when both women's and men's preferences about hardware are addressed.
- Women and men promote project goals through both their traditional as well as nontraditional roles.
- Women's groups and NGOs can be effective in involving women.
- Gender related indicators must be included when assessing project performance and impact.

3.8 Conclusion

- Inadequate involvement of both women and men has hindered programs and projects aimed at addressing sustainability in water resources management.
- Key concepts and definitions of gender mainstreaming.
- Understanding the gender-differentiated systems for access to resources, labour, water uses, water rights, and the distribution of benefits and production. Sex-disaggregated data and the documentation of unpaid labour are important.
- The importance of having an accurate analysis for water re-use.
- There are gender implications in water and sanitation.

This module highlight main issues of concern when mainstreaming gender in water programs. Moreover, it present recommended areas of action on how to mainstream gender throughout the project cycle starting from program design till program implementation and monitoring and evaluation of programs.

4.1. Learning Objectives

- How to mainstreaming gender analysis in water re-use programs?
- Presenting gender-sensitive monitoring and evaluation indicators.
- How to mainstream gender in the project cycle?

4.2. Main Issues of Concern

4.2.1. Mainstreaming Gender Analysis in Water Programs

In order to ensure that the gender analysis is mainstreamed in water programs in order to increase the positive impacts of the programs and that the overall objective to support the advancement of women is reflected in all IWRM initiatives, the following should be considered:

- Incorporate the insights from the gender analysis into project design. For example, it is not enough to document women's priorities. Their views should influence the priorities and objectives of the initiative.
- Give importance and recognition to women's responsibilities and views. For example, often women's uses of water are given less importance than men's (they are not documented, women's uses are not given priority, they are not visible to planners, etc.).
- Make links to key expected results of the initiative. There should be a clear analysis that links [the] gender analysis to the overall objectives of the project. If the project is focusing on flood control, the gender dimension should look at how women are consulted, involved and affected by various options for flood control (rather than a side initiative on small-scale credit for women).
- Identify concrete objectives. During the project design phase, objectives relating to gender equality should be clearly specified (rather than kept general, such as 'incorporate gender equality issues into the project').
- Developing indicators to track success towards meeting the results. General indicators should be disaggregated on the basis of sex (instead of total number of people consulted, there should be a breakdown between women and men).

4.2.2. Mainstreaming Gender in the Project Cycle

Among the shortcomings in development programs and projects is that issues of gender, poverty and environment are often included solely as an after-thought or as separate and mutually exclusive categories. If gender issues are addressed at project conception, they can more easily be incorporated in the design, implementation and evaluation. Programs that do not take into consideration the differing needs of men and women and their social, economic, cultural, linguistic realities during all their phases run the risk of being ineffective, inefficient and unsustainable. It is important for the project to be clear on its objectives in relation to gender and equity issues.

4.2.3. Gender-sensitive monitoring and evaluation indicators

A monitoring and evaluation process that has gender sensitive indicators and involves men and women not as informants but as participants will result in a better understanding of who in the community has benefited, who bears the costs and what motivates different groups to act. Furthermore, a monitoring process that involves men and women ensures that monitoring becomes a self-management tool rather than a policing instrument, thus leading to collective action.

If data collection is not disaggregated by sex, it will be difficult to assess the positive or negative impacts of the program or project on women and men, young and old and rich and poor. For example, if water provision in an urban slum has lessened the burden of water fetching for women and girls, this could free more girls to go to school. This positive result cannot be assessed without sex-disaggregated data collection, which can assist in measuring the scope of the impact, i.e., the increased enrolment and retention of girls in school. If water provision services have freed poor women's time to engage in income generating activities, without sex-disaggregated data, the positive impact will lack empirical evidence and will remain anecdotal.

Additionally, the following issues cannot be measured or monitored without gender-sensitive indicators:

- The impact/effectiveness of activities targeted to address women's or men's practical gender needs, i.e., new skills, knowledge, resources, opportunities or services in the context of their existing gender roles.
- The impact/effectiveness of activities designed to increase gender equality of opportunity, influence or benefit, e.g., targeted actions to increase women's contribution to decision making; opening up new opportunities for women/men in non-traditional skill areas.
- The impact/effectiveness of activities designed to develop gender awareness and skills amongst policy-making, management and implementation staff.

- The impact/effectiveness of activities to promote greater gender equality within the staffing and organizational culture of development organizations, e.g., the impact of affirmative action policies.

4.3. Recommended Areas of Action: Main Streaming Gender in the Project Cycle

The following highlight issues and questions that has to be considered when mainstreaming gender in the Project Cycle.

4.3.1. Program and Project Identification

Step 1: The external support agency participates in the program or project identification.

This includes an assessment of key development programs and trends including those addressed by global conferences and conventions.

Issues and Questions

- How can the external support agency assist the fulfilment of national commitments to both gender equality and sustainable development?
- Can the external support agency help identify opportunities where efforts to support sustainable resource use (especially water) overlap with efforts to support equality between women and men?
- Does the overall cooperation framework draw on analysis of how gender inequalities? Have an impact on environmental issues?
- Have government institutions responsible for gender equality been involved in setting priorities?
- Have women's organizations and gender equality advocates been involved in setting priorities?

Step 2: Analysis of policies.

Issues and Questions

- Have gender and diversity issues been given attention in the analysis of existing national policies and programs in the IWRM sector?
- Are national programs and investments in IWRM likely to extend benefits and opportunities equitably to women and men and especially poor women and men?

Step 3: Engagement of key government officials and other stakeholders in a dialogue on the policy framework for national development.

Issues and Questions

- Have government institutions responsible for gender equality been involved and consulted?
- Have women's organizations and gender equality advocates been involved and consulted?
- Have there been discussions with organizations with an expertise in IWRM

as to their interest and capacity in dealing with gender issues?

- Have efforts been made to ensure women's participation at all levels (grassroots consultations- water professionals- At all levels of government?
- Has there been an analysis of the obstacles to diverse women's participation and have strategies been developed to overcome those barriers?

Step 4: Assessment of design issues in projects at the community level.

Issues and Questions

- Technical design: Have both women's and men's views about technology options and design features been sought?
- User contributions: Have differences between women's and men's willingness and ability to contribute labor, materials or money been determined?
- Time/Workload considerations: Does the initiative increase women's/ men's/girls'/boys' workload both during and after construction? Does the demand for women's and girls' unpaid labor increase? Are there conflicting demands?
- Operation and Maintenance: How are operating and maintenance rights and responsibilities shared between diverse women and men? Do these reflect their use of the service system?

4.3.2. Formulating Programs and Projects

Step 5: Assessing projects to strengthen institutional capacity.

Issues and Questions: Gender issues in capacity building projects.

- What is the existing capacity of institutions and individuals to work with a gender perspective?
- What is the capacity of institutions and individuals to promote women's and men's participation at all levels?
- What is diverse women's and men's capacity to participate in tasks in technical fields, in decision making positions, and at the community level?
- Do policies exist to guide the institutions?

Step 6: Gender considerations in project development

Issues and Questions

- Have gender differentials in existing water rights been identified?
- Have existing patterns of access and control of water sources been analyzed and addressed?
- Has consideration been given to legal frameworks and institutional reform so as to work towards equitable access for both women and men to productive resources?
- Have needs, roles and workloads of women and men been assessed?

Step 7: Understanding the context and baseline data.

The participants in program or project design should initially establish a com-

mon understanding of the situation including socio-economic, gender and bio-physical characteristics. Sufficient data, sex-disaggregated wherever possible, must be gathered at this stage to establish a baseline for the project.

Issues and Questions

- In looking at the water sectors, has the analysis taken into consideration needs, resources, and the different priorities of communities marginalized due to caste, age, disability/ability, class, etc.?
- Within the current water usage and management, are the different roles and responsibilities of women and men in water use and management documented and understood (domestic and productive, commercial agricultural use, subsistence production, the urban informal economy, etc.)?
- Compare access to and control over all resources related to water between women and men in different socio-economic classes (rights to land ownership and capital assets, inheritance patterns, credit, etc.); labor supply (unpaid family labor, paid employment, etc.).

Step 8: Create a vision and define problems to be addressed.

The underlying causes of problems will often be perceived differently by different stakeholder groups including individual women and men. Experience in participatory processes can prove helpful in establishing a broad understanding of the situation. During the process of defining problems, the participants could also research similar experiences in the country or elsewhere.

Issues and Questions

- Who has been consulted and how were they involved in the consultation process?
- Were both women and men consulted? Were there specific attempts to involve gender equality advocates and specialists (academics, researchers, policy analysts)?
- Was the consultation process organized so as to maximize input from women and gender equality advocates?

Step 9: Identification of alternative strategies.

A wide range of stakeholders should carry out an exploration of alternative strategies so that innovative approaches or new opportunities do not get overlooked and potential risks are identified.

Issues and Questions

- In looking at alternative strategies, consider the possible benefits of strategies that promote women's participation and work toward sustainable water resources management.

Step 10: Selecting the most promising strategy.

Before deciding on a program or project strategy, it is important to consider the implications of possible solutions in terms of likely impacts, opportunities

that could be seized, and trade-offs between choosing one strategy over another.

Risks: Interventions imply certain risks and can have positive or negative effects.

Opportunities: The defined scope of the proposed intervention may inhibit the search for measures that mitigate negative effects. Looking for opportunities can pave the way for creative solutions.

Trade-offs: It is important that trade-offs and opportunity costs between different strategies be understood.

The capacity of the concerned organizations, institutions and individuals to carry out activities effectively, efficiently and sustainably must also be examined.

Issues and Questions:

- In looking at trade-offs, is specific care taken to ensure that women do not lose?
- Does the risk analysis look at possible and different negative and positive effects on women and men, young and old?
- Has there been an analysis of the opportunities for change and potential to both recognize women's participation and ensure equitable benefits for women and men, young and old?
- In looking at the capacity of ministries and institutions associated with the initiative, do they have the capacity to identify and work with gender issues? For example:
 - Do they have access to information on gender-related issues in the sector?
 - Do they have the skills to formulate and analyze questions on the gender dimensions of IWRM?

Has the institution developed a strategy for public participation and community empowerment that seeks to understand the views and priorities of both women and men?

Step 11: Defining objectives and outputs.

Participants should work out the program support for project design; that is, a hierarchy of objectives, outputs, activities and inputs.

Issues and Questions:

Consider whether or not it is appropriate to have specific objectives relating to gender. If there are not concrete expected results related to gender, then gender tends to 'fade out'. Usually efforts tend to focus on the expected results as defined in project planning documents.

Step 12: Using the logical framework.

The logical framework is a matrix that summarizes the main elements in pro-

gram and project design.

Issues and Questions

- Are gender issues clearly set out in the logical framework?
- Are there specific indicators identified to monitor results relating to diversity and gender equality?
- Will indicators be disaggregated on the basis of sex?

Step 13: Determining activities.

Once the outputs have been agreed to, the activities that will produce these outputs must be determined.

Issues and Questions

- What activities are required to ensure attention to gender issues?
- Is training required?
- Is it necessary to research specific issues or draw in particular stakeholders?
- Experience has shown that careful planning is required to ensure that the gender focus is not lost.

Step 14: Determine the management arrangements.

As part of project formulation, it is essential to determine how activities will be carried out so that the program support or project objectives can be achieved within the established limits of time, quality and costs.

Issues and Questions

- Does the implementing agency or institution have a commitment to gender equality and to achieving positive outcomes for women through the project?
- Are the responsibilities and expectations concerning gender aspects in the project clearly spelled out in project documents, agreements or contracts?

Step 15: Specifying indicators for monitoring and evaluation.

Indicators assist in determining the extent to which a program or project is achieving its expected results.

Through the consultative process outlined above, the participants agree on how progress towards achieving the objectives is to be measured, and what the indicators of success will be.

The monitoring and evaluation arrangements must be determined during the formulation of the program or project and its objectives.

Issues and Questions

- In projects involving community-based initiatives, have both women and men from the communities participated in the creation of indicators?
- Have other relevant women and men been involved in determining indicators?

- Are there indicators to track progress toward meeting specific objectives relating to women's participation, the capacity of organizations to work with a gender perspective, reduction in women's time obtaining water, etc.?

Step 16: Identifying external factors and risks.

External factors are events or decisions that are beyond the control of the managers of the program or project and which nonetheless affect the achievement of the objectives, the production of the outputs, the implementation of the activities, and the delivery and utilization of the inputs.

Issues and Questions

Women's ability to participate in the initiative may be influenced by a variety of factors outside the control of the program managers such as discriminatory attitudes, child care and domestic responsibilities, literacy, lack of time, etc.

Step 17: Identifying prior obligations.

A common way to minimize risks is to provide for activities to begin only after certain conditions have been met.

Issues and Questions:

It is important to monitor whether initial conditions relating to gender issues have been met. For example, if the plan stated that a gender specialist was to be hired, was this done?

4.3.3. Implementation

Step 18: Ensuring meaningful participation.

Issues and Questions:

- Are government institutions responsible for gender equity and equality represented during implementation?
- Is there representation from organizations with an expertise in IWRM in the project team?
- Have women been given a chance to participate in technical fields and in decision making positions?
- Does the initiative increase women's/men's/girls'/boys' unpaid workload during construction beyond what was initially predicted?

4.3.4. Monitoring and Evaluation

Step 19: Monitoring.

Issues and Questions:

- In preparation for annual reporting and reviews, analyze important changes in the last year, for example:
 - New legislation, government policies or commitments on gender equality (these could relate to land tenure, credit, NGO policies, etc.).

- New women's networks or organizations or changed profile/capacity of existing organizations.
- Changes in economic and social conditions or trends that affect priorities, resources, and needs in the WRM sector.
- Are data for monitoring disaggregated by sex?

Step 20: Evaluation.

Issues and Questions:

- Do the evaluation 'terms of reference' clearly specify the gender issues and questions to be addressed in the evaluation?
- Will the evaluation consider project outcomes/results with respect to differences in needs and priorities of women and men?
- Does the evaluation team have the expertise to look at gender issues in the specific context of the project (irrigation, water supply and sanitation, wetlands, etc.)?
- In conducting the evaluation, will evaluators:
 - Disaggregate data by sex?
 - Seek the input of both women and men and analyze differences and similarities?
- Will the evaluation identify 'lessons learned' relating to working with a gender perspective in water resources management so these can be transmitted throughout the organization?

4.4 Conclusion

- It is important to incorporate the insights from the gender analysis into project design.
- It is important for the project to be clear on its objectives in relation to gender and equity issues.
- A monitoring and evaluation process that has gender sensitive indicators and involves men and women as participants will result in a better understanding of who in the community has benefited, who bears the costs and what motivates different groups to act.
- Gender has to be mainstreamed in the whole Project Cycle from planning till implementation.

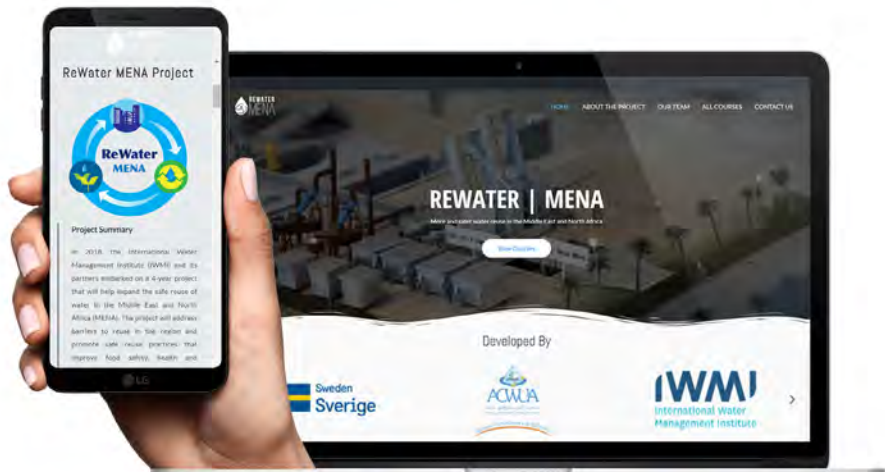
References

- Chen, Weiping, Yanying Bai, Weling Zhang and Wentao Jiao, Perceptions of Different Stakeholders on Reclaimed Water Reuse: The Case of Beijing, China, Sustainability Journal, available at: www.mdpi.com/journal/sustainability (Accessed on February 15, 2020).
- ESCWA. (2018), Women, Water & the Sustainable Development Goals in the Arab Context, Symposium on Women and Water Security for Peacebuilding in the Arab Region Beirut, Lebanon, 9-10 May 2018.
- Khan, S.J., M. H. Muston and Schafer, A. (Eds.) (2009), Integrated Concepts of Water Recycling, Sustainable Water for the Future: Water Recycling versus Desalination, New York.
- Khan, Stuart J., L.E. Gerrard. (2005), Stakeholder communications for successful water.
- Masgon, M. A., Gensch, R. (2010), Water, Sanitation and Gender: Sustainable Sanitation and Water Management Toolbox, available at: <https://sswm.info/> (accessed on February 20, 2020)
- Morna, C. L. (2000), Mainstreaming Gender in Water and Sanitation: Literature Review for the SA Department of Water and Sanitation, Mvula Conference on Women, Water and Sanitation, 7 August 2000.
- Ogilvie, Ogilvie & Company. (2010), Stakeholder/Public Attitudes towards Reuse of Treated Wastewater: Final Report, Lake Simcoe Region Conservation, and March 2010.
- Reuse operation, available at: <http://ro.uow.edu.au/engpapers/3200> (accessed on February 18, 2020).
- UNDP and Gender and Water Alliance. (2006), Mainstreaming Gender in Water Management: Resource Guide, UNDP and GWA, New York.
- United Nations. (2002), Gender Mainstreaming: An Overview, United Nations, and New York.
- UNWater. (2005), Gender, Water and Sanitation, Policy Brief, UNWater.



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