



Food and Agriculture
Organization of the
United Nations

How can women control water?

Increase agriculture productivity and strengthen resource management



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Key points

- The agriculture sector underperforms in many developing countries in part because women have less control over water, land and services.
- The yield gap between men and women averages 20-30 percent.
- Equal access to resources, services and employment for women farmers worldwide can increase farm yields up to 30 percent, meaning 100 to 150 million fewer people would go to bed hungry every day.



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▲ Women collect water for household use from communal water pump in Mozambique.

Agriculture is the largest user of water, accounting globally for almost 70 percent of all withdrawals and up to 95 percent of water use in developing countries¹. Water is essential for food and nutrition security: men, women, boys and girls with better access to water have lower levels of undernourishment, especially where they depend on local agriculture for food, services and income for an active and healthy life. But men and women often do not have equal access to water resources. Despite making essential contributions to the rural economy in crop and livestock production at subsistence and commercial levels, women still face severe constraints to raise production and productivity, due to their limited access to water resources, agricultural services, markets and employment opportunities. Still too frequently women are excluded from decision-making in management systems and resources allocation, both for domestic and productive purposes. Services like draught power are important particularly when it comes to support women in collecting water.

This paper examines women's situation in the water sector and the implications for agricultural productivity. It highlights some lessons learned in past programmes and policies, and concludes with actions recommended to increase women's productivity in the agriculture sector.

¹ In Nepal, Bhutan and East Timor 82 to 95 percent of economically active population depends on the agriculture sectors.

What is happening and why?

While accessible water resources are adequate at global levels to meet the water needs of the world, they are unevenly distributed, with particularly low per capita resources in the Middle Eastern, North African and Southern Asian regions. Inequality within and between countries, communities and households means that many people continue to have inadequate access to water, resulting in high under-nutrition rates, limited or no access to clean drinking water, and poor sanitation with significant adverse food and nutrition outcomes.

By 2050 water use by agriculture and industry is projected to increase by 19 percent. Meanwhile climate change is affecting rates and frequencies of desertification, soil degradation and drought, impacting the livelihoods of over 1.5 billion people worldwide. The most affected are marginalized local communities and particularly rural women, who carry a great part of the burden of providing water for household domestic uses: in one day more than 152 million hours of women and girls' time is spent collecting water for domestic use.² These time constraints due to women's multiple tasks limit their ability to participate in food security and agricultural activities, local governance structures (e.g. negotiate on rotation schedules) and training opportunities.

² World Health Organization: <http://water.org/water-crisis/women-children-facts/>



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▲ Women collecting water amidst a herd of goats at a well where pastoralists water their livestock in Kenya.

If women have improved access to water for both domestic use and agriculture production, they can have more time to start market gardens or income-generating activities, and in-turn improve the diet and incomes of their households, as well as become more involved in the governance structures that shape communities.

Access to water is a basic human right and essential for achieving gender equality, sustainable development and poverty alleviation



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▲ A woman carrying rocks to the site where workmen are rebuilding and improving an irrigation system in Haiti.



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▲ Farm woman with her child, involved in watershed management project in Myanmar.

Integrating Gender into Climate-Smart Agriculture (CSA) Initiatives

Sex-disaggregated data on Climate-smart agriculture in countries as diverse as Kenya, Senegal, Uganda and Bangladesh show that both men and women are indeed taking up new agricultural practices that are likely to enhance their resilience to the effects of climate change. These practices tend to feature incremental modifications (such as planting date or crop varieties), yet more transformative change (such as diversified livelihoods and an increase in assets) are needed if agriculture is to withstand the effects of climate change while bringing about improved productivity and food and nutrition security, increased economic growth, shared prosperity, and the ultimate goal of growth with social equality.

Gender in Climate-Smart Agriculture: Module 18 for the Gender in Agriculture Sourcebook, p.6



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▲ Woman carrying water after flooding in Pakistan.

In most rural areas women's participation in local institutions such as water users' organizations (WUAs) or farmers' organizations is limited. Even when they do belong to organizations, social restrictions often prevent them from participating in decision-making, and male members often do not perceive the relevance of increasing women's access to resources and services and broadening their involvement in local organizations. This situation hinders more participatory and equitable decision-making on water resources at local and national levels.

Low levels of women's involvement in local institutions, such as conflict resolution mechanisms, also contribute to increases in gender-based violence. Women and girls often experience violence when they collect water, or when disputes arise over water resources use. Thus the easy access to safe and convenient water supplies, and formal participation in institutions related to water access and management is crucial to enhance the wellbeing of women and their households.

Land tenure insecurity may be the single largest underlying cause of women's limited access to water and services. Women's land plots are typically smaller

than those owned by men, and are less likely to have access to irrigation or be further away from water resources. This context requires women to travel longer distances for water or make investments in irrigation infrastructure. But insecure land tenure discourages women from making investments that improve water access, thus limiting their agricultural productivity.

At national and international levels, poor governance frameworks and weak institutional structures have undermined renewed attempts to incorporate gender issues in water management initiatives and policies by governments and international organizations. Modest successes in involving women in decision-making and addressing their specific constraints are inadequate. Translation into practice and implementation of gender-responsive policy needs serious further consideration by national and international agricultural stakeholders, and can have significant benefits for society as a whole. Empirical estimates found by The State of Food and Agriculture 2011 dedicated to Women in Agriculture shows that if women had the same access to productive resources as men, they could increase yields on their farms by 20-30 percent.



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▲ A female Crop Water Budgeting trainer leading a meeting on Ground Water System with local farmers in India.

Women's participation in water governance

Many challenges with women's participation in Water users' organizations may be attributed to the fact that increasing participation has been considered a formal exercise: one of having more women at the table, maybe enforced through quotas. However, simply "adding" women to a process does not address questions of power. WUAs operate within existing political, social and cultural systems and relationships, and without addressing the underlying causes of gender inequalities the negative social impacts of these inequalities cannot be overcome. It is crucial to enable the circumstances that turn women's presence into meaningful participation and translate into influence on decision-making.

Active and meaningful participation will not happen automatically, but needs deliberate efforts that enable women to influence decision-making processes. The experience of WUAs confirms a general challenge of participation at local or community level that is often exacerbated by the false understanding of communities as an integrated whole. They are not. Communities are characterized by entrenched hierarchies and inequalities, and without identifying, acknowledging and addressing these, ostensibly participatory processes will perpetuate and even reinforce rather than alleviate these patterns of inequalities.

Source: "Gender Equality, Water Governance and Food Security with a Focus on the Near East and North Africa (NENA)," Global Initiative for Economic, Social and Cultural Rights. p. 23

Lessons learned in the water sector

INNOVATIVE TECHNOLOGY - To maximize agricultural production from a given volume of water it is essential to invest in both people and technology. The best and most innovative technology is of no use if people themselves cannot afford it or see no advantage to applying it. Using and managing the world's water efficiently is everybody's business, from government officials to small-scale farmers. People who most need a say in how water is managed – and know how it should be managed – are farmers themselves. Enabling both men and women, from the local communities to national government level, to understand their water management options given available and innovative technologies and make their own choices (types and levels of service, facilities location, operation and maintenance) can radically alter the world's use of limited water resources.

ENABLING ENVIRONMENT - To create an enabling environment towards gender equality, free of discrimination and violence, it is necessary to increase women's engagement in institutions like water users' associations and farmers' organizations. At international level an increased number of women were appointed as water and environment ministers (over 40 in 2005 globally) as an impetus to integrate gender issues into water and sanitation policies and programmes. Fixed gender quotas can be one tool for increasing women's engagement in these kinds of institutions and organizations. Furthermore developing women's leadership skills so they can participate in policy-making and promote their socio-economic empowerment (control over means of production and economic independence, and involvement of final users in decision-making) at local level is critical. In farmer-centered agricultural resource management projects women should be supported in taking leadership positions for aquaculture development, managing small household ponds or cultivating ornamental fish in backyard pools. Such projects can improve water and sanitation facilities in schools, giving girls a leadership role and increasing their self-esteem and school attendance by reducing their burden of fetching water through improved community's access to safe water. Through integrated and participatory watershed development, local communities can make women's voice be heard, create new employment and income sources, and resolve water conflicts through negotiation.

For example: National Observatories on Female Entrepreneurship and Work in Agriculture were established to integrate women in agricultural processes, developing their technical skills, disseminating knowledge and experiences, and orienting public and private sectors interventions. This approach of developing a gender responsive enabling environment also implies supporting countries to address gender inequalities in national legislations, policies and investments formulation and implementation, with a gender-sensitive methodological framework to assess gender-related impacts.

LEGAL EMPOWERMENT - Investing in legal literacy and paralegal training programmes related to water and land rights provides a viable approach to support the rural poor, and particularly protect women's natural resource rights and increase their capacity to influence governance mechanisms.

GOVERNANCE STRUCTURES - Many efforts were made to design gender-responsive policy instruments and incentives to improve women's access to water and water services releasing time for productive endeavors, adult education, empowerment activities and leisure, and reducing risks of violence. At local level, empower women by building their leadership and technical skills to let them be more involved in community-based organizations and negotiations related to water management, increasing their ability to create their own markets, and gain access to gender-sensitive technologies.

Some lessons learned in addressing gender issues in national policies and legislation

Considering the challenges women face to access and use productive resources, the legal and political context related to land and water resources can be reviewed using the FAO Socio-Economic and Gender Analysis (SEAGA) approach, to see whether they address gender equality and non-discrimination issues, how to collect sex disaggregated data to support legal analysis (i.e. exploitation origin, women's land tenure and water access rights, economic resources distribution and access to labour), and analyze institutional and technical capacities to integrate gender issues in work plans and budgets.

Considering the SEAGA approach, the African Ministers' Council on Water developed a policy and strategy for gender mainstreaming within the water sector. Gender-sensitive indicators for agriculture and irrigation sectors focused on land and water resources management, access to employment and education, and institutional empowerment to support gender equality interventions, were developed. Additionally gender awareness was organized at local, provincial and national levels to sensitize on women's important role in the water and agriculture sectors.



▲ Women and men at work excavating mid-moon dams to save water in Niger.

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▲ A group of HIV/AIDS orphans preparing to irrigate the crops with a treadle pump in the Junior Farmer Field and Life School garden in Mozambique.

SEX-DISAGGREGATED DATA - The lack of sex-disaggregated data has been identified as a critical area for further work. Analysis can focus on women-managed plots, matrilineal land tenure, vesting assets and joint membership for spouses in producers' organizations. Additionally, trainings can be conducted and guidelines developed for statisticians to address gender issues in agricultural censuses and databases like AQUASTAT, which is FAO's global water information system to support agricultural water management. AQUASTAT is working in some countries to raise awareness on the importance of sex-disaggregated data to design effective policies and programmes, and to identify relevant gender-sensitive indicators to monitor impacts on men and women of water-related interventions in the agriculture sector.

INFRASTRUCTURE - More investment is needed to increase women's access to infrastructure and technologies, including labour- and water-saving technologies to free their time and increase agricultural productivity. To develop appropriate technologies, the gender division of tasks needs to be analyzed in the local socio-cultural context. Issues to consider are: who decides on the irrigation practices at farm level; what knowledge, strength, time and funds are required by men and women; and whether women have equal access to inputs, considering their operational capacity and strength, and infrastructure needs in both large-scale irrigation schemes and smaller-scale initiatives (i.e. build a bridge in large irrigation scheme to facilitate their access to markets), and involving them in construction and maintenance activities for their empowerment.

NETWORKING - Finally networking can be promoted on gender equality in the water sector, by creating national and regional shared knowledge basis with all stakeholders involved in gender issues in this sector.

United Nations World Water Assessment Programme

Sex-disaggregated Indicators for Water in Agricultural Uses:

- Percentage of irrigated farms in region under survey; percentage of irrigated farms managed by/owned by men and women.
- Average size of irrigated farms run by/owned by women/men.
- Gendered division of labour related to irrigated farming:
 - › Gender-specific tasks related to irrigated crops, by nature of tasks; gender-differentiated daily time-use of household members involved in irrigated farming work.
- Decision makers and participants in household-based decision-making process regarding:
 - › Irrigation (Male/Female informants/perceptions);
 - › Decisions re allocation of time and financial resources; crops to be irrigated.
- Decision-makers and participants in community-based decision-making process (if any) regarding:
 - › Irrigation (Male/Female informants/perceptions);
 - › Decisions regarding allocation of time and financial resources; crops to be irrigated.
- Men/Women perceptions of gender discrimination (or equality) regarding women's participation in decision-making in relation to irrigation.
- Men/Women's access to support services for irrigation:
 - › Participation in technical training;
 - › Men/Women access to bank loans/credit; incentives for the development of irrigated agriculture.
- Male/Female membership in and intensity of participation in community-based irrigation committees.
- Percentage of directly water-related industries managed by/owned by Men/Women.
- Percentage of Male/Female employees in water-related industries.
- Presence of women's cooperatives in water-related industries.

Source: "Sex-disaggregated Indicators for Water assessment, monitoring, and reporting," United Nations World Water Assessment Programme

Recommendations for the way forward

To incorporate the gender perspectives in the global water agenda, it is essential to advocate for women's and men's direct involvement at all levels and plan future actions to support women in water resources management, including:

- **Define** gender-responsive policy instruments and incentives.
- **Strengthen** women's land tenure security and access to water use services.
- **Support** social mobilization and local governance, by removing internal gender biases and discrimination in public sector organizations.
- **Encourage** gender budgeting to assess the policy commitments on gender equality.
- **Improve** women's productivity in using water for agriculture and small business by increasing their access to resources, services, employment and markets.
- **Develop** gender capacities of different stakeholders and strengthen technical and functional skills of rural women for their participation in decision-making processes.
- **Invest** in women's leadership, engaging them to serve as role models for gender mainstreaming into water management at all levels.
- **Disseminate** labour- and water-saving technologies through gender-responsive research.
- **Promote** women's equal access to rural services and institutions.
- **Collect** and disseminate sex- and age-disaggregated data for gender-responsive policy development.
- **Identify** appropriate gender-sensitive and water-related indicators to measure the differential impacts of policies and investments.
- **Disseminate** good practices, norms and guidelines for gender equality and women's empowerment.
- **Invest** in young people and middle managers as future leaders to move up in political and social hierarchies.
- **Develop** social protection systems tailored to vulnerable women and men that can be instrumental to achieve natural resources management outcomes.



▲ Women carrying pails of water in Kyrgyzstan.

Tools for capacity development and project planning

Useful tools include:

SEAGA Irrigation Sector Guide

to integrate socio-economic and gender issues in the project cycle and promote participatory and gender-responsive irrigation planning.

<http://www.fao.org/docrep/012/ak209e/ak209e00.pdf>

Passport to mainstreaming gender in water programmes

with key questions for interventions in the agricultural sector.

<http://www.fao.org/docrep/017/i3173e/i3173e.pdf>

Guidelines on Improving Gender Equality in Territorial Issues

for participatory and negotiated territorial development.

<http://www.fao.org/docrep/016/me282e/me282e.pdf>

FAO Gender and land rights database

with good practices on land governance legislations, policies and customary laws.

<http://www.fao.org/gender/landrights/home/en>



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▲ Women of a local village in Tunisia, discussing on soil and water conservation.

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