

Toward integrated water resources management with gender equity: background and prospects in Peru and Bolivia.

Garcia Cienfuegos, Bertha y Vargas Elio, Andrea Tatiana.

Cita:

Garcia Cienfuegos, Bertha y Vargas Elio, Andrea Tatiana (2025). *Toward integrated water resources management with gender equity: background and prospects in Peru and Bolivia. Mentoring Program Women in Wash. Rural Water Supply Network, Netherlands.*

Dirección estable: <https://www.aacademica.org/bertha.cecilia.garcia.cienfuegos/15>

ARK: <https://n2t.net/ark:/13683/p0Ae/Vw5>



Esta obra está bajo una licencia de Creative Commons.
Para ver una copia de esta licencia, visite
<https://creativecommons.org/licenses/by-nc-nd/4.0/deed.es>.

Acta Académica es un proyecto académico sin fines de lucro enmarcado en la iniciativa de acceso abierto. Acta Académica fue creado para facilitar a investigadores de todo el mundo el compartir su producción académica. Para crear un perfil gratuitamente o acceder a otros trabajos visite: <https://www.aacademica.org>.



Toward integrated water resources management with gender equity: background and prospects in Peru and Bolivia

Garcia Cienfuegos, Bertha Cecilia ¹ Vargas Elio Andrea Tatiana ²

Between April and October 2025, a new phase of Women in Wash has begun. Mentoring Program , promoted by Rural Water Supply Network - RWSN, a program designed to foster meaningful connections and provide personalized support to women at different stages of their careers in the water, sanitation, and hygiene (WASH) sector or related fields; and to build collaborative and intergenerational relationships between young people and industry experts. The authors are honored to have actively participated in the program, and through it, we have visualized the gender and water issues that exist around the world, across continents, and across different regions, one of which is particularly relevant in Latin America and the Caribbean. Therefore, below, we have considered some aspects related to the LAC region, particularly Peru and Bolivia.

1. Integrated water resources management and gender equity in Latin America and the Caribbean

Globally, there is a gender gap related to Sustainable Development Goal 6, safe drinking water and sanitation. Although more women now have access to safe drinking water, around 380 million women and girls live in high or critical water stress, a figure that is expected to increase to 674 million by 2050 due to climate change (UN WOMEN and UNDESA Report, 2023); hindering the integrated and sustainable management of water resources.

Integrated Water Resources Management (IWRM) in Latin America and the Caribbean (LAC) seeks the coordinated management of water and other resources to maximize social and economic well-being in an equitable and sustainable manner, addressing challenges such as scarcity of access and water stress. Gender equity is integrated by recognizing and addressing the differences in roles, needs, and opportunities between men and women in water management, seeking to empower women and vulnerable groups in decision-making related to water. To achieve this, gender analysis is proposed to identify gaps, the inclusion of a gender perspective in policies, strengthening institutional capacities, and promoting the participation of women at all levels of water management.

In this context, the adoption of a gender perspective in water policies in the LAC region has evolved slowly over the years. While it has been shown that women and girls are discriminated against in access to and use of water in all sectors, gender aspects are still not widely included in plans and policies related to water management.

¹ National University of Tumbes, Peru. Mentor in Gender Wash Mentor Mentoring Program

² University of Cochabamba, Bolivia. Mentee in Gender Wash Mentoring Program

According to ECLAC (2023), in rural areas of Latin America and the Caribbean, 72% of households without access to safe drinking water depend on women and girls to collect the resource, which limits their time for education, employment and political participation. Likewise, according to UN-Water (2022), it is noted that gender inequalities in the water sector hinder the fulfillment of SDG 6: Water and sanitation for all and compromise the climate resilience of communities.

Regarding the inclusion of a gender perspective in the planning processes of infrastructure and/or productive uses of water, it is known that the low participation of women in land and water ownership, dialogue, design, and operations related to water management are a major challenge (Saravia, 2022). To achieve this, gender analysis is proposed to identify gaps, the inclusion of a gender perspective in policies and institutions, and the participation of women at all levels of water management.

1.1. Challenges of water management and gender equity in the LAC region

Despite being a water-rich region, access to safe drinking water and sanitation is limited, with women and girls being disproportionately affected. Regarding governance and participation, gender aspects are still not sufficiently integrated into water plans and policies, and gender equality funding is not always allocated to this area.

Even though women possess valuable knowledge about local watershed management and sustainable water use practices, their participation in decision-making remains limited. In the context of differential roles and knowledge, women often assume the burden of water management and collection, with specific knowledge, but with less control and power in decision-making.

1.2. How to Integrate Gender Equity into IWRM?

Gender analysis is necessary, as well as diagnostics that systematically identify gender gaps in water access, use, and control, analyzing existing power dynamics.

Likewise, institutional strengthening is necessary, creating specialized gender departments within water ministries and agencies, and hiring gender experts to design and implement public policies; generating inclusive policies and ensuring that these water policies explicitly address the specific needs and opportunities of women and men, beyond infrastructure.

It is necessary to promote participation and empowerment by encouraging women's active participation at all levels of water governance, fostering their leadership, and taking into account their perspectives and knowledge. In the LAC region and in most countries, efforts are being made and opportunities are being developed to incorporate a gender perspective into integrated water resources management, and opportunities have been identified to consolidate these processes.

2. IWRM and GENDER IN PERU

In Peru, gender inequality and integrated water resource management are incompatible with a dignified existence. The National Policy on Gender Equality and Water Resources recognizes this as one of the highest priorities in the country. However, gender gaps and water risks are not narrowing at the expected pace; these gaps are very stark. In rural

areas, women were found to transport water, purify it, store it, and make it available to their families, working on average ten hours more per week than men (ANA, 2023).

In this context, this article aims to determine the presence of men and women in the different water sectors, the progress made in gender equity in the integrated management of water resources in Peru's watersheds, and contribute to the design of comprehensive policies, projects, and programs, taking into account the differences between the demand for and need for water resources, with gender equity.

2.1. Regulations: gender and water

These standards guarantee women equal access to land, water, and decisions about water resources. This is not only a matter of justice but also a necessary condition for water security. Peru already has a National Gender Equality Policy and a gender mainstreaming strategy; commitments have been made to reduce access barriers to leadership opportunities for women in water resource management and sanitation services, such as the Piuray Declaration in 2021.

Organizations such as the National Water Authority, the National Superintendence of Sanitation Services (SUNASS), Forest Trends, and the Swiss Cooperation Agency are promoting initiatives to encourage women's participation in water management.

-National Gender Equality Policy and a gender mainstreaming strategy, which, under the leadership of the Ministry of Women and Vulnerable Populations, is implemented in public and private institutions, as well as in state policies, plans, programs, and projects. Each public entity has established internal mechanisms for the coordination and integration of the gender approach into policies and institutional management.

- The National Action Plan on Gender and Climate Change seeks to achieve equal opportunities and rights for the sustainable development of populations. Currently, work has focused on information management and capacity building (objectives 1 and 2), as the strategy is to begin with the knowledge and capacity base to influence the specific policies and measures that constitute objectives 3 and 4 of the Plan. The main implementation challenges relate to the coordination of public policies and multisectoral work within the State.

-Equality Plan for Men and Women in Water User Organizations. This instrument highlights what women do in relation to water management; second, it empowers them through more active participation in their organizations; third, it encourages them to take on roles in specific tasks, which will allow them to assume leadership positions.

-Piuray Declaration . Composed of seven commitments that seek to promote the implementation of Mechanisms for the Payment of Ecosystem Services (MERESE) to improve our country's water security, recognizing the importance of ecosystems and their elements (known as natural infrastructure) for water conservation. It commits Service Providers (EPS) to reducing unequal access to leadership opportunities for women in water resource management and sanitation services. The Declaration also recognizes and promotes the important role women play in the supply and protection of water in the country's different watersheds.

SUNASS Gender Equality Policy

It adheres to SUNASS's national and multisectoral gender equality policies, as well as to the international commitments made by the State, including the commitment to mainstream gender and guarantee the principle of non-discrimination of any kind in Sunass's policies and institutional management . It also develops and implements the measures necessary to ensure the incorporation and application of this policy in the various areas of Sunass management .

MERESE Board of Directors of SUNASS

SUNASS Board of Directors Resolution No. 039-2019-SUNASS-CD, of November 2019, incorporates the following contributions: The relaxation of specific requirements during the MERESE design phase; the possibility of incorporating a gender perspective into the design of MERESE and implementing them in line with national gender policies; and the simplification of how the taxpayer-based remuneration contract is accessed.

2.2. Gender gaps in integrated water resources management

In this context, it was determined that for women to have equal access to and control over water resources, to achieve food security and maintain livelihoods, they must participate in decision-making and priority setting on an equal basis with men. Indeed, women and girls are often responsible for fetching water, a task that can be dangerous, time-consuming, and physically demanding. Long journeys on foot, often more than once a day, can leave women and girls vulnerable to attack and often prevent them from attending school or earning an income.

Gender inequality and IWRM are incompatible with a dignified existence. Indeed, the National Policy on Gender Equality and Water Resources recognizes this as one of the highest priorities in the country. However, gender gaps and water risks are not narrowing at the pace they should.

Gender gaps in water management are very marked. In rural areas, women were found to transport water, purify it, store it, and make it available to their families, working an average of ten hours more per week than men. Women have little participation in decision-making; they hold only about 20% of decision-making positions in state entities, as well as in grassroots organizations involved in water management. Public and private policies, regulations, and interventions are designed and implemented with partial information, solely from the male perspective, which reduces their chance of success, as they do not take into account all the knowledge accumulated by women or their needs. The participation of women and men in participatory design and management is considered essential in order to take into account the diversity of interests, perspectives, and knowledge, and to secure the commitment, support, and cooperation of local stakeholders. This seeks not only to reduce potential negative impacts on women but also to create benefits that lead to gender equality and the empowerment of women and girls.

2.3. Access to water and land tenure

In this context, it was determined that, in rural areas, access to water for production purposes is inextricably linked to access to land; therefore, limitations on women's access to land are directly related to access to water.

It is reported that of the total hectares of land cultivated in Peruvian agriculture, only 30% are managed directly by women. Of the largest plots (between 20 and 50 hectares), only 18% are managed by women; 82% of these types of plots, which are the most profitable, are managed by men.

2.4. Water and sanitation coverage

It was determined that more than 3 million people lack access to public drinking water, and 8.7 million lack sewage services. (MVC). The Sanitation Service Management Boards determined that there are 66% more male than female citizens.

Among service providers (EPS), 84% are led by men, and only 16% (ANA, SUNASS). Of the 45 EPSs with Merese tariffs, 20 EPSs are already implementing funds through projects or activities in watershed headwaters. (SUNASS).

2.5. Agricultural production

In this context, while Peruvian women are significantly involved, the Ministry of Agrarian Development and Irrigation reports 5,024,000 people in the agricultural sector, of whom 42% (2,110,000) are women and 58 % are men. A large segment of female farmers, heads of households, manage their own plots. Of the 125 water user associations, 31.6% of their members are women, and only 10% of the management positions are held by women.

Indeed, in the investigation of these representations and the actions of the User Boards, a SWOT analysis was developed that identified all the problems faced by the user associations.

2.6. Water regulation systems

Although women play a strategic role in the management and conservation of water resources, gender gaps in the management of sanitation services are evident in the positions women hold in public institutions related to the sector.

Among the main gaps, it was determined that by 2023, the total number of directors of Peru's 50 sanitation service providers (EPS) reached 153, of which 87% are men and only 13% are women. Furthermore, the general management positions of EPSs are occupied by 86% men and 14% women, meaning only 7 women hold these positions.

In rural and small-town settings, the situation is no different; only 12% of sanitation service administration boards (JASS) have a female president, while 81% are men. Furthermore, less than half of JASS (46%) include women in the positions of secretary or treasurer, according to data from the MVCS (Ministry of Public Health) as of 2020.

Sunass Municipal Technical Area Information Registration System, as of 2020.

In rural areas, women's income represents 54% of a man's income, only 20% of irrigation board members are women, and of all irrigation user board directors, only 10% are women.

As can be seen, women have minimal participation at the decision-making levels where policies concerning water resource management for productive use (irrigation) are defined; this low representation is closely linked to land ownership, which is primarily in the hands of men.

3. IWRM and GENDER IN BOLIVIA

Bolivia has a regulatory framework that promotes gender equality, such as the Comprehensive Law to Guarantee Women a Life Free from Violence and the Alternation Law, which allows for 50% political parity. However, the greatest challenges arise in their implementation, primarily due to cultural and structural barriers.

Within IWRM, as Bolivia has made progress in recognizing the human right to water and sanitation in the Political Constitution of the State (2009) and in the Framework Law of Mother Earth (2012), on the other hand the National Basin Plan (2013-2030) incorporates gender and social participation guidelines in water management, and many international cooperation projects such as UNDP, GIZ, COSUDE, among others have incorporated gender components in the restoration and care of basins and access to safe water.

But in general, while the regulatory framework is in place, it is still necessary to close the gap between rhetoric and practice; on the other hand, according to a review of the regulations:

Law No. 2060 on the Provision and Use of Drinking Water and Basic Sanitation Services (2000): Does not explicitly include a gender perspective.

National Irrigation Policy with a Gender Approach (2017, in implementation): Seeks to promote the participation of women on irrigation system boards.

National Gender and Water Plan (2021): Formulated by the Vice Ministry of Drinking Water and Basic Sanitation, with the support of UN Women, to mainstream the gender approach into water policies.

3.1. Recent Opportunities

Community water management experiences have become visible, where women play a prominent role in the sustainability of the systems. (Sustainable Water, 2022).

There is also a growing movement of social and indigenous organizations promoting territorial management and the protection of water sources, with a significant participation of women leaders, which is becoming more established over time.

Women actively participated in the "Water War" in Cochabamba (2000), which contributed significantly to their empowerment, although more women still need to assume decision-making positions. This event has highlighted weaknesses in water management from a gender perspective.

3.2. Drinking water and sanitation coverage

According to data from the INE (2022), 74% of the urban population has access to public water, while in rural areas only 56% have this service, further highlighting inequality. Regarding sanitation, the situation is even more critical, as 65% of urban areas have basic sanitation, while only 28% have sewerage in rural areas.

Women and girls in rural areas spend an average of three hours a day collecting water, limiting their access to education and productive activities (UNICEF, 2021). Furthermore,

menstrual hygiene-related illnesses are also on the rise due to the lack of safe water, where many women still lack access to adequate health care.

3.3. Agriculture

The role of women in rural areas is very important, as they are primarily responsible for managing water for irrigating their family gardens and plots. They also apply ancestral knowledge and sustainable practices that contribute to local food security.

However, according to GIZ, only 25% of management positions on irrigation committees are held by women. This is because women are often excluded from the committees where issues such as infrastructure and water management plans are handled.

International cooperation programs have been created to promote the inclusion of a gender perspective and training to improve irrigation and sustainable water management techniques, as well as to address climate change and improve production diversification.

3.4. Domestic use

Women in Bolivia traditionally assume responsibility for the use, management, and care of water in the home, including collection and storage for daily and routine activities such as cooking, cleaning, and caring for the family and their home. This represents a significant burden of unpaid labor and limits their access to other opportunities.

Studies show that the time spent on these tasks not only limits the personal development but also the productive development of rural women; therefore, IWRM seeks to improve access to drinking water to reduce time and effort, contributing to gender equity in domestic use.

3.5. Management positions

In Bolivia, the participation of women in leadership positions within organizations related to water management has been increasing, but their representation in formal technical and decision-making spheres remains low. Women have managed to occupy up to 20-48% of positions in local water and sanitation committees, in some cases with the support of gender programs, many of them in resource management.

However, the presence of women in specialized executive and technical positions is low due to cultural barriers, lack of technical training, and limited access to decision-making spaces.

Promoting female leadership through training and mentoring programs is key to bridging these gaps and ensuring equal participation at all levels of IWRM.

This information shows that, although women are the primary managers of water resources in the domestic sphere and in environmental protection, their inclusion in formal management positions within IWRM requires policies, training, and institutional strengthening with a gender perspective to achieve true equity in water resource management.

4. Conclusions

Gender equity in Integrated Water Resources Management (IWRM) is important not only from an ethical perspective but also from a social and strategic perspective, in order to achieve water sustainability and social justice in Latin America and the Caribbean.

In both Peru and Bolivia, significant regulatory and programmatic advances have been made that recognize women's key role in water management . Peru has seen more progress; however, significant gaps persist in access, participation in management positions, and decision-making.

In Peru, women continue to bear a disproportionate burden in domestic water collection and management, while their representation in management positions in entities such as public health services (EPS) and user associations does not exceed 20%. Although policies such as the National Gender Equality Policy and the Piuray Declaration exist , their implementation remains vague and faces structural and cultural barriers.

In Bolivia, although progress has been made in incorporating gender guidelines into instruments such as the National Watershed Plan, the gap between the regulatory framework and practice remains wide. Women remain underrepresented in technical and political decision-making, despite their historical participation in water protection, such as in the iconic Cochabamba Water War.

Both countries share common challenges, recognizing the need to strengthen institutional capacities for gender, generate disaggregated data, promote women's meaningful participation at all levels of IWRM, and link gender policies with those on climate change and water security.

A true transformation toward gender-equitable IWRM will require not only robust legal frameworks, but also political will, the allocation of specific resources, and a cultural shift that values and integrates knowledge, as well as the experience and leadership of women as agents of change in IWRM. It is up to us as women to demand and exercise the necessary oversight to open up greater opportunities for our gender.

Women are considered the guardians of water in many places, and that's why their participation in decision-making positions is essential. Infrastructure design must consider women's perspectives to generate real results tailored to our local contexts.

5. References

- Sustainable Water (2022). *Women and Community Water Management: Experiences in Bolivia* . La Paz: Sustainable Water.
- APS (2021). *Baseline Study of the OCSAS in Bolivia* . Authority for the Supervision and Social Control of Drinking Water and Basic Sanitation.
- National Water Authority - ANA (2023) Third National Measurement of SDG Indicator 6.5.1: Degree of Implementation of Integrated Water Resources Management in Peru. Lima, Peru.
- IDB (2020). *Gender in Water Management in Latin America* . Inter-American Development Bank.
- Cap -Net and LA- WETnet (2013). Water Law. Training Manual and Facilitator's Guide on Water-Related Law and Legal Reform for Integrated Water Resources Management.

- ECLAC (2021). *Gender and water management in Latin America and the Caribbean* . Economic Commission for Latin America and the Caribbean.
- SDC (2021). *Strengthening Women's Participation in Water Management in Bolivia* . Swiss Agency for Development and Cooperation.
- FAO (2019). *Women, agriculture and food security in Bolivia* . Food and Agriculture Organization of the United Nations.
- Fuentes, F. (2020). *Women's Vision and Participation in the Water War in Cochabamba, Bolivia* . Latin America Genera.
- Garcia , Bertha (2025). Typifying Integrated Water Resources Management in Peru. LAC Gender and Water Network
- Gender and Water Alliance - GWA and United Nations Development Programme - UNDP (2006), "Resource Guide for Gender Mainstreaming in Water Management", Vol. 2, No. November.
- GIZ (2021). *Gender perspective in integrated water resources management* . Deutsche Gesellschaft for International Zusammenarbeit .
- <https://repositorio.ana.gob.pe/bitstream/handle/20.500.12543/5648/ANA0004193.pdf;jsessionid=EA31E5BE1B0F501C6ACBB1C5DFDDF9C2?sequence=1>
- INE (2020). *2020 Household Survey* . National Statistics Institute.
- INE (2022). *Access to Water and Sanitation in Bolivia* . National Institute of Statistics.
- Ministry of Environment and Water (2013). **National Basin Plan 2013-2030**. Plurinational State of Bolivia.
- Ministry of Environment and Water (2017). *National Irrigation Policy with a Gender Approach* .
- UNDP (2020). *Report on gender equality in Bolivia* . United Nations Development Programme.
- A Woomen & United Nations Department of Economic and Social Affairs (UNDESA). (2023). progress on the Sustainable Development Goals : The gender snapshot 2023.
- UNICEF & World Health Organization (WHO). (2023). Gender Inequalities in WASH Report; data on water collection responsibility and time spent by women and girls.
- UN World Toilet Development Report 2023. (2023). Partnerships and cooperation for water ; summary of the state of water and risks of global water scarcity and stress.
- UN Women (2020). *The role of women in water management in rural contexts* . United Nations Women.
- UNICEF & World Health Organization (WHO). (2023). Gender Inequalities in WASH Report; data on water collection responsibility and time spent by women and girls.
- UNICEF (2021). *Water, Sanitation and Hygiene in Rural Areas of Bolivia* .
- Vice Ministry of Drinking Water and Basic Sanitation (2021). *National Gender and Water Plan* .