

Lessons learned



Reducing women's domestic workload through water investments

Gender, targeting and social inclusion



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These notes are “living” documents and will be updated periodically based on new experiences and feedback. If you have any comments or suggestions, please contact the originators.

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Introduction

In its work to transform rural economies, the International Fund for Agricultural Development (IFAD) supports projects that improve access to and control of water resources for rural women and men. It also helps them to free up time by using labour-saving technologies that make laborious tasks (at home or at work) easier and more efficient, or change the way that they are carried out. Projects also address the gender inequalities that often see women perform many of the unpaid, time-consuming and least productive work.

Access to a sustainable supply of safe and sufficient water for domestic and productive purposes is still limited in many rural areas, in particular for more marginalized groups. This makes water collection, typically performed by women, one of the most time-consuming and heavy tasks in daily rural life. It also leads to poor health and nutrition in the family, and restricts the productive potential and mobility of rural women. In response to the priorities voiced by poor rural people, IFAD-supported projects invest in improving access to sustainable rural water supplies.

There is a recognized need in the water sector for more accurate data on access to water in terms of the distance travelled and the time needed to collect water to meet all household needs, and who or what combination of people are involved in water collection. More information is also required on how the time burden most often felt by women is associated with other socio-economic or demographic factors, such as economic status and age.

As part of the continuous drive to improve the development outcomes of investment programmes, a study¹ was conducted to assess the impact of water investments in IFAD project areas. The study focuses on access to water, the time saved by households, their use of that time, and the workloads of household members. Seven projects were involved, from Bangladesh, The Gambia, India, Malawi, Peru, Uganda and Yemen. The lessons described in this note are based on the results of the study.

Context

Access by households to safe and sufficient water underpins food and nutrition security, poverty eradication and inclusive development. Safe drinking water is also a human right, essential for the health and dignity of everyone.

This is why improving water coverage levels has been a major focus of development policies and programmes over the last few decades. As a consequence, an impressive 2.6 billion people have gained access to safe drinking water since 1990.²

However, behind the global figures lie large disparities, and the people who remain without access to safe water are the poorest and most vulnerable.³ In 2015, 663 million people, or 10 per cent of the world's population, still relied on unsafe drinking water sources, of whom 80 per cent reside in rural areas; nearly half are in sub-Saharan Africa and one fifth live in south-eastern Asia. Unsafe water sources include ponds, dams, rivers, irrigation canals and unprotected wells and springs. Not only are they open to faecal and other contamination, they may also provide an unreliable supply and be located far from households.

¹ IFAD. 2015. The impact of IFAD water investments on time saved by households on domestic water collection: A gender perspective.

² Access to safe drinking water means access to water: i) used for domestic purposes; ii) from a source that is less than 1 kilometre away from its place of use and for which it is possible to reliably obtain at least 20 litres per member of a household per day; and iii) with microbial, chemical and physical characteristics that meet WHO guidelines or national standards on drinking water quality – typically from piped water to private or public taps, standpipes, tubewells, boreholes, protected dug wells, protected springs and rainwater collection. http://www.who.int/water_sanitation_health/mdg1/en/

³ UNICEF and WHO. 2015. *25 years. Progress on sanitation and drinking water: 2015 Update and MDG Assessment*.

In such cases, households are less likely to obtain the estimated 20 litres of water per person per day required for drinking and hygiene, which affects their health and well-being.⁴

Many rural households also face severe constraints in accessing adequate water for key productive uses to support their food and nutrition security, such as vegetable gardening, the raising of small livestock and income-generating activities. Supply is inadequate because of insufficient access to appropriate technologies (e.g. household water harvesting equipment) and to enough water sources.

Poor access to safe and sufficient water means that water collection persists as one of the most laborious and time-consuming daily chores of rural households. As women usually hold responsibility for water collection, they are the most affected by the time burden. Some women make multiple trips, taking up several hours a day. Children often assist in water collection, with a small percentage also assuming full responsibility for household water collection, taking valuable time and energy away from their education.

Differences in water collection responsibility, by gender and age, lead to variations in the time available to women, men, girls and boys to engage in productive, personal development and community-related activities, as well as educational and leisure activities. Water collection, therefore, contributes to the time poverty of rural women and children, which in turn perpetuates rural poverty.

The study of seven projects identified 14 water source investments of various types, which have led to significant changes in household water collection habits and times.

Investments directly influencing domestic water collection included the rehabilitation or construction of the following types of water sources:

- piped water supply schemes with distribution to private taps (India, Peru)
- piped water supply schemes with distribution to public taps (Malawi, Uganda)
- boreholes/deep tube wells (Bangladesh, Malawi)
- protected wells with hand pumps (The Gambia, Malawi)
- household-based rainwater harvesting systems (Yemen)
- ponds (Bangladesh).

Investments directly influencing productive water collection, for purposes such as irrigation, aquaculture, livestock-rearing and backyard gardening, included the rehabilitation or construction of:

- irrigation canals (India, Malawi, Peru)
- irrigation pipes (India)
- ponds (Bangladesh).

The full report on the study, including rationale, methodology, survey tools, and analysis and results by country is available upon request.

⁴ UNICEF and WHO. 2011. *Drinking water: Equity, safety and sustainability*.

Lessons learned

Technology

A comparison of the water sources used before investments to those used afterwards shows that many projects have built on existing technologies or introduced a new, slightly more complex technology (e.g. from water piped to public taps to water piped to private taps in Peru, or from unprotected wells to protected wells in The Gambia). In this way, technological advancement develops in line with individual/community financial, operational and management capacities necessary for a sustainable water service.



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Tanzania - Agricultural Sector Development Programme - Livestock

Time savings

Across all samples, women are the main water collectors and have saved an average of two hours a day in the wet and dry seasons since the water investments. Average water collection times have decreased from three and a half hours to one and a half hours every day.⁵ Although the time saved varies within and between samples, it can be inferred that, on average, the potential of water investments to reduce women's drudgery is very high.

The principal reason for the time saved is that the new or improved water sources have been located either:

- much closer to households (e.g. boreholes, deep tube wells, public taps, ponds); or
- inside the homestead or household (e.g. household-based rainwater harvesting systems, private taps).

The distances travelled to and from water sources have thus decreased, thereby reducing the length of time spent on water collection round trips. In some cases, this has also led to the need for fewer collection trips because more water can be collected and carried per trip; and sometimes no trips are needed as water is available in the household. When there are more water sources available, waiting times to draw water can also decrease – although in The Gambia, it was learned that waiting times can increase even when using an improved water source such as a protected well and hand pump, rather than an (open) unprotected well, because only one person can draw water at a time. In such situations, more improved water sources or a hand pump with a faster discharge rate are required (assuming that funding and safe water yields are assured).

Another reason that time can be saved when collecting water is improved physical accessibility (e.g. when the public taps in Uganda and improved ponds in Bangladesh could be accessed over easier terrain). Cement aprons around water points fitted with effective drainage channels also help to improve accessibility by ridding the vicinity of mud and flies. In Peru, men saved time when irrigating their crops because faster and more efficient irrigation canals had been rehabilitated and lined with cement.

Interestingly, after the water investments, most households in the samples from Bangladesh and The Gambia (in the dry season) and one household in Malawi collected more water for domestic and small-scale productive purposes, in order to enjoy the ensuing benefits rather than collect the same volume to save time (see Water quantity below). Meanwhile, in Bangladesh, time savings are only achieved in the wet season because in the dry season lower groundwater levels mean longer round trips to suitable surface sources and more water has to be collected from deep tube wells. Time savings follow a similar pattern in Malawi because water supplies are depleted in the dry season from household-based rainwater harvesting systems, forcing people to use communal water sources.

Health improvements

The water investments have clearly had a positive impact on family health and well-being, and subsequently on women's workloads. In all countries studied except Peru, improved access to safe drinking water was cited as an advantage of the water investments.⁶ Respondents in Bangladesh explicitly reported reduced morbidity in skin complaints, reduced morbidity and mortality from diarrhoeal diseases in children and fewer post-natal infections in women. Women, young women and girls in Bangladesh and Yemen also reported less mental stress and physical fatigue thanks to the reduced burden of water collection, including safer water source access points and paths⁷.

⁵ Excluding Bangladesh and The Gambia because of missing data.

⁶ In Peru, people were concerned about the amount of chlorine in the water, which may explain why they did not cite safe water as an advantage.

⁷ Following the definition of youth by the United Nations, "young people" refers to women and men aged between 15 and 24 years old and "children" refers to girls and boys under 15 years of age.

Consequently, women's role of caring for the sick and taking them for medical treatment is likely to have been reduced, as well as medical bills. Overall, households report less drudgery and improved health and nutrition, which is an important basis on which women, young women and girls can start to change their lives and take up new opportunities.

In Bangladesh, The Gambia, Malawi and Uganda, the improved quality of drinking water results from the rehabilitated or new protected water sources, rather than from actual investment in water treatment processes. In Yemen, households have switched from filtering drinking water from the unprotected and protected wells, the vendor/tanker truck and the surface sources with gauze and cloth to using ceramic filters on drinking water from their rainwater harvesting systems. It is not clear from the data if the change in treatment method results from project interventions or other factors. Investments in piped water supplies in India and Peru included centralized treatment processes. Interestingly, the basic level of treatment used in India of only sedimentation has been better received than the more sophisticated chlorine disinfection treatment in Peru, where the majority of households claim there is too much chlorine in their water.



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India – Andhra Pradesh Participatory Tribal Development Project

Distribution of water collection responsibility among household members

Since the water investments, slight changes have occurred in the distribution of water collection responsibility among household members in The Gambia and Malawi. In The Gambia, a few more young people collected water after the water investments, potentially driven by the opportunity to collect more water. In Malawi, a man and young man from separate households started to help the women and girls to collect water after the borehole investment, which significantly decreased collection times because of the closer water source and shorter waiting time.

The distribution of water collection responsibility did not change in the other five sample countries. Women, followed by young women and sometimes girls, continued to bear the burden of water collection for domestic needs and often small-scale productive purposes. The exception was Uganda, where there was a relatively even distribution of responsibility among household members, both before and after investment: 32-36 per cent women, 20 per cent men, 20 per cent young women, 20 per cent young men and 2-8 per cent children.⁸

Change in daily activities

Women from all seven samples have used the time saved for a variety of productive tasks, principally family farming (e.g. crop production and processing, and small livestock production), as well as backyard gardening, wage labour, selling goods in local markets and participating in self-help group meetings. Women from Uganda and Yemen reported spending time on handicrafts, while only women from Yemen reported attending training sessions (in life skills, literacy and income-generating activities). The potential benefits of women undertaking more productive tasks include improved household food and nutrition security as well as increased confidence and economic potential for them. This can improve women's bargaining position in their husband-headed households and/or in the community, which is an important step towards challenging discriminatory gender roles and relations.

Young women also reported more time for productive activities, and young women and/or children across all samples use the time saved for school and study, which could advance their education and subsequent opportunities.

Men from India, Malawi, Peru and Uganda also reported saving time and using it for the productive tasks of family farming, wage labour and income-generating activities.

Notably, only women and young women (from five samples) reported using the time saved for domestic chores, with the exception of single-male-headed households (that perhaps have no option but to do chores themselves) and in India, where five out of nine men from husband-headed households collect firewood and perform childcare.⁹ Interestingly, in Bangladesh, Uganda and Yemen, women reported using some of the time saved to rest, relax and socialize, and for leisure, suggesting that their workloads had reached a balance following the water investments.

In India and Peru, several low-income households reported saving time on water collection but not using the time to undertake productive activities. Instead, in Peru, the time saved is spent with their families, but it is not clear if this is because of necessity or choice. In India, the reasons given are the old age of the single women occupants and a perceived insufficient amount of time saved. In such cases, it would be interesting to further clarify why productive activities are not undertaken in low-income households and, if appropriate, provide training or other means for them to do so. Regardless of the reason, the burden of work had been reduced.

⁸ In part, this is because men undertake all domestic chores in three single-man-headed households and women do so in six woman-headed households, and also because of significant support from male and female youth.

⁹ It is not known to what degree the men used to carry out these tasks, so it is not possible to attribute this "culture" of domestic support to the water investments.

Water quantity

As mentioned above, households in the samples from Bangladesh (in the dry season), The Gambia and a household in Malawi have collected more water for domestic and productive purposes since the water investments. It appears that they have chosen to enjoy the ensuing benefits from more water, rather than collect the same volume and save time. In such cases, women's workload can actually increase, but it seems that the benefits (e.g. improved personal hygiene, better nutrition, increased incomes) are deemed to outweigh the costs. The demand for a higher volume of water collected per day could have come from the householders themselves or from development interventions (e.g. hygiene education/promotion so people want to use more water for personal and domestic hygiene; the promotion of small-scale productive activities; and/or the use of improved water containers and means of transport to carry a higher volume of water).

Although water quantity data are incomplete, it can be inferred from the quantitative and qualitative data that the average quantity of water drawn since the water investments has not increased in India, Peru, Uganda and Yemen. Here, the objective for the piped water supplies and household-based rainwater harvesting systems appears to have been to improve access to a safe water supply. In the sample from Uganda, the slight decrease in average water quantity per person per day of 1 litre in the wet season and 2 litres in the dry season could be because households now have to pay for the higher-quality water from the public tap compared to the previously used communal water sources. Missing data on water quantity from rainwater harvesting systems may also affect the study results.

In the samples from Bangladesh, The Gambia and Uganda, where the average quantity of water collected varies from 15 to 38 litres per person per day, women report using some of the water collected for small-scale productive activities; however, the practice is limited to some rather than all households. This could be because of the significant variation in the water quantity collected per person per day among households in any one sample, suggesting there is much greater potential for some rather than others to use the water for productive activities. It would be interesting to learn why this is the case in order to enable all households to collect water for small-scale productive purposes to increase household nutrition, food security and women's economic potential. For instance, in Bangladesh, it is understood that high-income households collect more water than middle- and low-income households because the deep tube wells and ponds are owned by them and/or located in their homesteads and because maid servants can be employed to collect the water.

Sustainable development

In order to sustain any positive steps towards reduced drudgery for women, new or improved water infrastructure and services need to be effectively managed and financially viable in the long term. In view of this, a few issues were raised in the sample communities that require further investigation and possible action:

- inadequate cleaning and maintenance of water infrastructure (in Malawi and Uganda)
- chlorine overdosing (in Peru)
- scarcer water and population growth (in Peru).

Water investments should also not impede other drivers of rural development. In Yemen, women reported fewer opportunities for social networking and communicating with other women after the water investments because there was less need to travel distances to fetch water, leading to fewer exchanges of gifts and local produce (e.g. cereals, dairy and vegetables), less access to news and less awareness of local events. In this instance, facilitating alternative opportunities for social networking and exchanging gifts alongside a water investment would uphold women's social and economic opportunities, supporting the drive for their empowerment.

The need for more water investments

In many of the sample communities, daily water collection still represents a lengthy and tiring task, with high opportunity costs of lost productive time and poor health. For example, across India, Malawi, Peru, Uganda and Yemen, women still spend, on average, one and a half hours fetching water every day. Looking at the sample communities in The Gambia and Yemen, daily water collection can take women four to five hours and two to three hours to perform, respectively.

Despite great advances made over the last 30 years in the sample community in Bangladesh, women and girls, mainly from low-income households that still rely on secondary or tertiary water sources, can still spend two hours two to three times each day collecting domestic water. Children are also reported to still suffer from diarrhoeal diseases, albeit to a lesser extent, due to the continued use of polluted surface sources. Furthermore, water supplies for small-scale productive activities managed by women, such as fruit and vegetable production and domestic livestock-rearing, are said to have been largely overlooked by development schemes.

Relationships between household type and water collection and time use

With the exception of Bangladesh, few relationships were found between the household income group or headship and water collection habits and time use. No headline conclusions can be drawn from the results, except that any such relationships are clearly context-specific and cannot be assumed across countries or even communities. For example, in the sample community in Peru, positive discrimination in terms of water access appears to exist for low-income households, whereas in India, four out of five of the households with no direct access to private taps fed by the piped water supply scheme are low income.

In Bangladesh, high-income households have clearly benefited disproportionately from the water investments in deep tube wells and ponds compared to middle- and low-income households. This is reportedly because the water sources are owned by high-income households and/or located on their homesteads. This highlights the importance of ownership arrangements and the location of water sources to enable equitable access to water for all.

Conclusions and recommendations

Across all samples, women have saved just under two hours a day, on average, on water collection in the wet and dry seasons since the water investments. Average water collection times have decreased from three and a half hours to one and a half hours every day.¹⁰ The figures illustrate the high potential of water investments to reduce women's drudgery. However, much more can be done to free up women's time.

Important recommendations can be drawn from the study for IFAD water investments:

- Project design should clarify the objective(s) of the water investment based on the findings of the gender-sensitive poverty and livelihoods analysis. The most important objective – be it improved water quality, closer access to water or greater availability of water for domestic and productive use – or indeed the order of priority of all these objectives is context-specific. In theory, enabling the accomplishment of all three objectives seems ideal, but that may not be necessary or, more likely, it may not be feasible or sustainable.
- Appropriate investments to improve access to safe water supplies are highly effective in freeing up the time and energy for women, and to a lesser extent other household members, to undertake productive, personal development, community and/or leisure activities. Investments in water supply should be in line with rural households' multiple water needs. Focus should be on improving access to and control of water to use for domestic tasks and for small- and/or large-scale productive purposes.
- Understanding the multiple livelihood strategies and the corresponding water needs of household members should be the basis when planning for water service provision.¹¹ A minimum of 20 litres per person per day is required for basic domestic use, including at least 3 litres of safe water per person per day for drinking purposes. On this basis, different incremental investments are then possible to increase the water supply to or near households, so as to move to “higher service levels” up the water ladder, and eventually fully meet productive water needs as well (see Figure 1 on Multiple-use water services [MUS]).¹²

¹⁰ Excluding Bangladesh and The Gambia because of missing data.

¹¹ For more information, visit <http://www.musgroup.net>.

¹² Adank M., B. van Koppen, and S. Smits. 2012. *Guidelines for Planning and Providing Multiple-Use Water Services*. IRC, The Hague, The Netherlands/IWMI, Colombo, Sri Lanka.

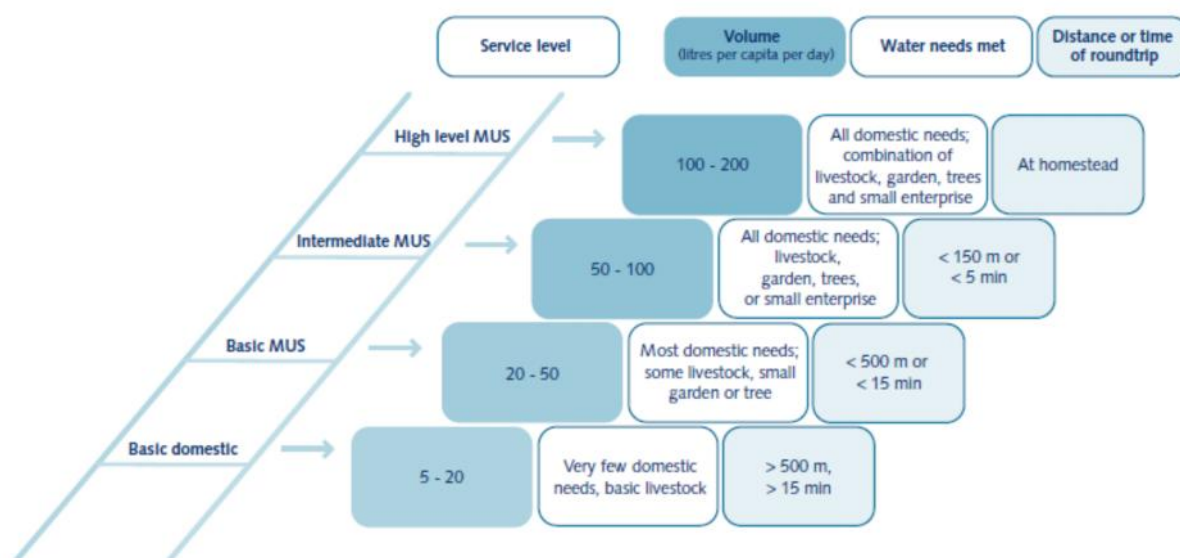


Figure 1: Multiple-use water services (MUS) ladder¹³

- Time savings from water investments are achieved primarily by locating new or improved water sources either much closer to households or actually inside the homestead or household. Time can also be saved by improving physical accessibility to water points, for example by flattening and stabilizing surrounding terrain.
- Important variations exist between households and communities in the amount and type of support women receive from other household members in water collection. Therefore, generalizations cannot be made during project design about who holds water collection responsibility. This information should be obtained during the poverty analysis of the local area.
- Technologies that bring water into homesteads and households, such as household-based rainwater harvesting systems and piped water supplies to private taps, help to promote the sharing of water collection responsibility among household members and hence reduce the heavy load on women.
- In a context where young women assist in or hold responsibility for water collection, investments in improved water sources free up their time for productive activities. Young women and/or children across all the samples used the time saved for school and study, which are essential steps for educational advancement and the opening up of farm and non-farm employment opportunities.
- Where men collect water, attention should also be given to supporting their use of the time saved for productive or developmental tasks.
- Water infrastructure (or hardware) investments must be complementary to the capacities (or “soft skills”) of the community or the service operator (e.g. local authorities, private sector) to allow for a sustainable water service. Moreover, investments should include capacity-building of the management committee/operator in finance, operation, water treatment, maintenance, management and conflict resolution.

¹³ van Koppen, B., Smits, S., Moriarty, P., de Vries, F.P., Mikhail, M., and Boelee, E. 2009. *Climbing the Water Ladder: Multiple-use Water Services for Poverty Reduction*. IRC, The Hague, The Netherlands/IWMI, Colombo, Sri Lanka.

- When women or other household members do not use the time saved from shorter water collection trips for productive or developmental activities, or indeed leisure, it should be investigated. Perhaps other domestic chores claim their freed-up time and so also need to be lightened, or they may require support in participating in development activities or performing new productive activities.
- Monitoring during project implementation of access to water sources and the benefits accrued should:
 - be disaggregated by gender and, where possible, by other factors, including age, household type and ethnic identity
 - consider both water quality *and* quantity for domestic and small-scale productive uses
 - identify any negative impacts and propose remedial action.
- Relationships between household income group or headship and water collection habits and time use are context-specific and cannot be assumed across countries or even communities. However, results from the sample from Bangladesh illustrate how strong the relationships can be when they exist, and, therefore, it is important to understand them in order to put in place measures to ensure equitable access to water for all.
- The multiple positive impacts of water investments support the drive for equitable workloads between men and women. The momentum for change needs to be secured by complementary investments in women's empowerment and sensitization to the issue of equitable workloads. Gender transformative approaches encompass both of these elements by enabling women and men, together, to understand how gender inequalities restrict their development, and to create a household vision to improve their lives.¹⁴

¹⁴ Toolkit on Household Methodologies <http://www.ifad.org/knotes/household/index.htm>



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