Guidance for PDAMs: Evidence-based recommendations to support increased connections to and use of piped water

This document provides recommendations for PDAMs on strategies to support households to install connections and to increase their use of piped water. It is based on a joint research project called RECHARGE ("*Resilience in a Changing Climate: Advancing Research on Groundwater for Equity*") conducted by University of Technology Sydney and Universitas Indonesia in partnership with Bappenas. The main goal of the research was to develop a behaviour change campaign concept that would support households to shift from household wells or bores to using piped water supply as a more climate-resilient, safely managed water supply.

The research followed a framework called Behaviour Centred Design (BCD), developed by the London School of Tropical Medicine and Hygiene, UK. As part of this process, formative research was conducted in West Jakarta in October-November 2023 to understand low-income household perceptions (households are in the service area of PDAM and are using PDAM and/or groundwater) and key motivations that influence their water source choices. A workshop was also held with representatives from community, local government agencies, PDAMs and PERPAMSI in January 2024 to co-develop ideas for a behaviour change communications campaign and relevant components that would support households to transition to using piped water supply, by analysing the research findings to date. These processes form the basis for the recommendations presented in this brief.

The key recommendations are:

- Recommendation 1: Simplify the connection process for households
- Recommendation 2: Minimise physical disruption of connections at the same time as offering services to bring tap connections to key locations within the house (not just to the property boundary)
- Recommendation 3: Improve service reliability, addressing intermittency, water quality and water pressure issues, through-out all seasons
- Recommendation 4: Consistently build trust in the quality and safety of the piped water as well as build trust in the company as a committed, communicative, customer-oriented service provider
- Recommendation 5: Subsidise the installation cost and reduce or remove connection fees
- Recommendation 6: Allow for easy daily or weekly payment arrangements

RECHARGE
Resilience in a Changing Climate: Advancing Research on Groundwater for Equity
UTS Institute for Sustainable Futures
UNIVERSITAS INDONESIA
Veritas, Probitas, Iustitia | Est. 1849
BAPPENAS
Kementerian Perencanaan Pembangunan Nasional/ Badan Perencanaan Pembangunan Nasional

Recommendation 1: Simplify the connection process for households

Three practical barriers were mentioned by households when they consider connecting: (i) they needed to connect as a group, (ii) some locations were not feasible to connect, and (iii) complicated paperwork process. Since people value and are motivated by *ease and convenience*, addressing these barriers is important.

Facilitate group connections: Having a critical mass of customers is important for PDAM cost-efficiency, however from the perspective of households, bringing together multiple people interested and with sufficient finances to connect is challenging: "*I don't have a PDAM connection because at least five residents need to install it, but the connection cost is high, so [other] residents cancelled it*." Households also provided potential solutions, in one location noting how neighbourhood head (RT) facilitated the process. However, not all RT will do this themselves, and hence the potential for PDAMs to offer individual connections where possible, or to directly facilitate group connection processes or to partner with RT/RW. This could include for instance facilitating discussions regarding excavation work permits among neighbours or other organisations, to reduce the load on households to coordinate amongst each other. Reducing the financial burden of connections (discussed under Recommendation 5) will also help this area.

> *"The neighbourhood head has facilitated the installation of PDAM water, and if there is a PDAM installation program, it can be facilitated by the neighbourhood head"*

Provide innovative technical solutions for hard-to-reach homes: Areas that are difficult to connect include alleyways, small spaces and areas long distances from the main distribution pipe. PDAMs could map these areas and seek technical solutions to water provision in such locations, rather than disregarding these locations, which gives the wider population the impression that the service provider is not committed to providing services for all. Such solutions could include investing in flexible piping solutions and innovative infrastructure technologies that can navigate small alleys and tight spaces, ensuring that homes in these areas are not excluded from the water supply. In some service areas of PDAM, PDAM builds communal reservoirs (water storage tanks but on an adequate scale) to fulfill supply. These communal reservoirs are water reservoirs near settlements that are far from the main source of PDAM water, these communal water points could be used to serve people in small alleys and tight spaces.

Simplify the paperwork processes: Making the connection process simple in terms of paperwork and processes will remove barriers particularly for some segments of the population such as the elderly or people with a disability. Also, ensure the approach is responsive, by immediately processing new customers who register for new connections. In the research we heard comments such as: "*I want to install PDAM and [so I] seek facilitation from the neighbourhood association (RT) for the paperwork as I am*

elderly and disabled." Ideally it should not require additional help from a third party and the PDAM could support such households, through the RT where appropriate.

Collaborate with local leaders and organisations: As described above, other parties can support PDAMs in reaching new customers. Partnering with local government at the keluarahan level, neighbourhood heads, local associations (like RT), and other community leaders. Since women play key roles regarding water, it could also include collaborating with organizations such as women's groups concerning family empowerment (Pemberdayaan Kesejahteraan Keluarga (PKK)) or volunteer community health workers (Posyandu Cadres) by providing them with marketing fees. In addition, other links such as through corporate social responsibility (CSR) and the government through programs like "hibah" or Baznas of Wakaf air, can facilitate group connections and the overall connection process, from paperwork to physical installation. Local figures such as religious leaders, can act as intermediaries, providing support and streamlining the process for residents, and are often trusted figures in the community.

Recommendation 2: Minimise physical disruption of connections at the same time as offering services to bring tap connections to key locations within the house (not just to the property boundary)

Concerns about the space and complexity of PDAM installations are key obstacles, with misconceptions about the size requirements, house space, the required space for water storage within the house and the costs of traditional setups discouraging users. The reliance on alternative water sources due to limited access further highlights the need for accessible connections. Simplifying installation and enhancing water access are critical to overcoming these barriers, and promoting the broader use of reliable piped water services.

Address house space concerns for PDAM connections: People living in compact and small homes face challenges obtaining PDAM connections due to the insufficient space required for pipe installation. Despite their desire to connect, the limited interior space of their homes does not accommodate the necessary piping infrastructure. This situation creates a barrier to connecting to piped water related to the size of the house, as some people think they need to have a big house to get connected to the PDAM. To address this, PDAM needs not only to disseminate clear information about the minimal space required for connections but also to emphasize the adaptability of installations, including the use of suitably sized piping tailored to the constraints of smaller living spaces. Highlighting the flexibility in pipe sizing and installation techniques reassures residents that PDAM installations can be customized to fit the unique spatial configurations of their homes, thereby making the service more accessible to a broader range of households. This approach helps in dispelling barriers

> *""I actually wanted to use PDAM, but my house is small, and I think I need to have a bigger space to install it [the piped connection]"*

to space requirements and demonstrates PDAM's commitment to accommodating the diverse needs of its potential customers.

Overcome perceptions about storage and space needs: A perceived barrier about required storage space within households could be overcome by clear messaging that significant storage is not required (though this will depend on piped water reliability and sufficient water pressure, see Recommendation 3), or proposed space-efficient or mobile storage solutions offered as a complementary service.

Simplify installation to reduce disruption and cost: The installation of a PDAM connection often presents a significant challenge for homeowners, entailing disruptive and labour-intensive activities like breaking through ceramic tiles or flooring, particularly in essential areas like kitchens and bathrooms, to install the necessary piping. The aftermath of this process necessitates repairs, such as replacing damaged ceramics or flooring, adding a financial burden to the household. Consequently, this sequence of tasks not only interrupts the household's daily routine but also leads to considerable expenses. This combination of factors contributes to the perception among many residents that having a PDAM connection is both inconvenient and costly. PDAMs can addressing these concerns by adopting less invasive installation methods (to the extent possible) and providing clear communication about what the process entails could significantly enhance the attractiveness and feasibility of PDAM connections for potential users. For instance, PDAM can offer consultation services to assess and plan the most efficient and least disruptive installation strategy for each household could further enhance the appeal of PDAM connections. Furthermore, to minimize impressions of PDAM's causing disruption through excavation work, PDAM could increase their coordination with other public service provider (electricity, gases, and telecommunications).

Promote ways to ensure piped water more accessible and readily available at the key locations within the home where it is most needed: A significant barrier to the adoption of piped water in households is the current reliance on alternative water sources, which is often due to the lack of immediate water access at crucial points where water is used within the home. Residents have noted the convenience of traditional methods, such as using air pikulan services for directly filling storage tanks, which minimizes household workload. This preference underscores the importance of having piped water readily accessible at the points it is most needed within the home, to encourage a shift to greater use piped water. PDAMs can offer to do inspections (as a service) to identify how and where pipes could be connected, and develop processes to clarify home ownership etc. to support extension of their services towards installation within homes. The integration of tap connections into key locations within the house, such as kitchens and bathrooms could thereby be supported. Such a move would significantly lessen the reliance on other water sources by adapting household daily routines around water use towards greater use of piped water, influencing behaviour changes to use more piped water through the physical presence of taps where needed. By implementing these enhancements, PDAM can directly address the accessibility and convenience concerns, thereby facilitating a smoother transition for households to more regularly use piped water, aligning with their daily needs and preferences.

Recommendation 3: Improve service reliability, addressing intermittency, water quality and water pressure issues, through-out all seasons

Intermittent water supply, pressure fluctuations, and seasonal supply inconsistencies present significant barriers to PDAM's ability to provide reliable and consistent water services. These issues disrupt daily life for consumers, eroding trust in the system as households are forced to resort to alternative water sources during outages. Additionally, the variability in water pressure, particularly during peak usage times, and concerns over water quality and safety during supply interruptions further compound the challenges faced by PDAM. Together, these barriers highlight the critical need for focused attention to ensure the community's water needs are met efficiently and reliably. PDAMs therefore need to invest more strongly in their production and distribution infrastructure and management, as without this, building trust and reputation with customers is difficult. This is particularly true given climate change impacts, which may affect raw water availability and quality.

Address the challenge of intermittent supply and enhancing reliability: Many households expressed frustrations with the PDAM water supply's reliability, citing occasional shutdowns that leave them hesitant to pay for a service marred by periods of non-operation. "*PDAM water often goes out*," as noted by residents, directly impacts their willingness to rely on PDAM as a primary water source. This underscores the need for PDAM to address and improve upon the intermittent nature of its water supply to bolster reliability and consumer trust.

Support people to not seek alternatives during service interruptions: When faced with disruptions in PDAM service, households frequently resort to purchasing water from vendors, altering their daily water-based activities significantly. This shift not only demonstrates the adaptability of consumers but also highlights the challenges posed by an inconsistent water supply. "*If the PDAM water is off, I buy pikulan water from a waterman", "If it goes out, I use well water for bathing. It doesn't bother me much"* illustrate the direct impact of service interruptions on daily life and personal hygiene practices. This unpredictability undermines trust in the PDAM system as a consistent water source, leading households to seek alternative solutions during outages. To address this, the PDAM could invest in infrastructure resilience, improving the network's capacity to withstand demand peaks and maintenance challenges. Enhancing the reliability of the water supply necessitates not only infrastructure upgrades but also a commitment to regular maintenance schedules and the adoption of technology for real-time monitoring of the system's performance. It could also include ensuring availability of back-up water trucks to be mobilised in the case that it is not possible to continue the piped supply. Such strategic improvements could significantly reduce the frequency and duration of service disruptions, thereby rebuilding user trust in the PDAM water supply.

Tackle water pressure fluctuations: Variability in water pressure common concern among PDAM users as the inconsistency in water pressure is particularly noticeable

during peak usage times, which severely impacts daily activities. Residents report, *"The flow of PDAM water is small sometimes, not always, during the day it's small maybe because a lot of people use it,"* highlighting the inconvenience caused by low water pressure. The fluctuation in water pressure, especially during the day when demand is highest, indicates a mismatch between supply capacity and user demand. Addressing this requires upgrading the water distribution network to handle peak loads more efficiently, considering the installation of pressure-boosting systems at critical points within the network, or building communal level storage capacity. Educating consumers about peak demand periods and promoting water-saving practices could also play a crucial role in alleviating pressure on the system, ensuring a steady and reliable water supply for all users. Implementing these changes can provide more consistent water pressure, enhancing the daily water use experience for PDAM customers.

Ensure water quality and safety amidst supply interruptions: Interruptions in the PDAM water supply, not only inconvenience users but also raise concerns about water quality and safety, particularly when the resumption of service brings "dirty and murky" water, as some users have reported, "*PDAM water often goes out, sometimes it's dirty and murky*". When water pressure drops or the supply goes out, there is a risk of contaminants entering the system, raising health concerns among users about the safety of the water for consumption and household use. A sudden shutdown of flow causes pressure fluctuations and turbulence in pipes, which can dislodge sediment and make the water turbid. To prevent murky water from reaching customers, PDAM operators must quickly flush the network, or use automated flushing equipment at critical points to maintain clear and safe water. Also, the presence of a chlorine smell has been a point of concern, impacting the willingness of households to use PDAM water for a broader range of activities. Actions could include assessing chlorine levels *(could use residual chlorine sensors in required and critical points*) and public education campaigns on the measures taken to ensure water safety and how to safely resume water use after an outage can help alleviate consumer concerns, ensuring confidence in the quality of the PDAM water supply. This could be done through leaflets or other mechanism, and could include information about water quality at end-point (e.g. house boundary) in circumstances where the PDAM is able to confirm that water quality. In addition, PDAMs could increase their use of water safety planning, particularly in the context that raw water quality may be low.

> *""The current quality of the PDAM water is now reliable; in the past, it used to have a chlorine smell and the colour was often murky, but they say it's no longer the case"*

Support the adaptation to supply variability with resilience measures: In response to the intermittent supply and concerns over water quality, some households have adopted resilience measures, such as the installation of reservoir tanks ("toren"), to ensure a steady water supply and mitigate issues with pressure and quality. This method not only provides a buffer during outages but also aids in stabilizing water pressure for household use. This approach provides a reliable water source for daily needs, minimizing the impact of PDAM service disruptions and enhancing household water security and

convenience. However, some participants mentioned the need for storage space in their homes in the case of intermittent supply as a barrier. If reliability can be improved then this will reduce one of the barriers for households to connecting: "*The connection cost for the Public Water Supply (PDAM) is expensive, requiring monthly subscriptions, the provision of storage space (which is unavailable inside the house), and the installation of piping within the house, incurring significant costs and complications*.". PDAM could encourage the adoption of such tanks by offering installation support or incentives, thereby enhancing water security and convenience for its users. This initiative would demonstrate PDAM's commitment to addressing consumer needs and improving service reliability.

Address seasonal variability concerns in water provision: The challenge of ensuring a stable water supply throughout the year, particularly during the dry season, represents a significant barrier to consistent water access for many households. Community concerns are especially obvious during these periods of scarcity, with fears exacerbated by the potential impacts of climate change in terms of quantity and quality as well. "*I'm concerned about climate change and fear that water availability will decrease over time", and "During the dry season, water is affected, reduced, and becomes dirty"*. These statements underscore the critical need for PDAM to provide a dependable water supply that can withstand the variances of wet and dry seasons alike. PDAM needs to focus on infrastructure improvements, upgrading the WTP technology and efficient water management. Enhancing storage and treatment facilities will help maintain water quality and availability, especially during dry seasons. Additionally, adopting water conservation practices and engaging the community in sustainability efforts are crucial. Implementing robust water management and conservation strategies can optimize the use of available water during times of scarcity and ensure quality control throughout the year.

Recommendation 4: Consistently build trust in the quality and safety of the piped water as well as build trust in the company as a committed, communicative, customer-oriented service provider

Key barriers to the widespread adoption of PDAM water include the perceived hassle and cost of boiling, doubts about water quality, and confusion over PDAM's treatment and supply processes. These challenges, compounded by concerns over chlorine smell and operational transparency, restrict PDAM water use for many. Addressing these issues demands PDAM initiatives to clarify water safety procedures, simplify purification processes, and improve communication about service details. By tackling these barriers, PDAM can foster greater trust and encourage broader use of PDAM water for drinking and other household needs.

Enhance the convenience and avoid the cost of boiling PDAM water: A significant barrier to the broader utilization of PDAM water, particularly for drinking, is the perceived inconvenience and the additional costs related to making it safe for consumption. Many users currently restrict their PDAM water usage to non-consumptive purposes like showering and bathing, avoiding the extra steps and expenses involved in boiling water

before drinking due to safety concerns. Some users' comments such as, “I'm quite satisfied with PDAM water because I only use it for showering,” and “Using PDAM water is complicated, needs to be boiled, and the gas cost is high.” The preference for refill water which bypasses the need for boiling, underscores the demand for solutions that simplify making PDAM water safe for drinking. PDAM could invest in and promote water purification technologies eliminating the need for boiling and the associated costs of gas usage- these could even be offered as additional products offered by the PDAM.

Build trust in PDAM water quality and safety: The preference for refill water over PDAM water for drinking highlights a trust gap, with delays in refill delivery forcing some to turn to tap water as a last resort. In these instances, makeshift filtration methods, such as a homemade filter crafted from a clean sock and a cotton fish filter, become temporary solutions. This approach has its limitations, notably the accumulation of dirt over time, which underscores the inadequacy of such filtration for ensuring water purity. This situation is captured by the concern, *“I'm not too sure about using PDAM water for drinking; I feel safer using refill water”*. Addressing this trust gap requires PDAM to introduce and promote more effective and reliable water filtration solutions to enhance water quality and safety.

Enhance transparency and understanding of PDAM water processes: A significant barrier to connecting and using PDAM water for all household needs, including drinking, stems from uncertainties about the system's operations. Many people express confusion over who is responsible for water delivery, the origins of the water, and the treatment processes it undergoes before reaching their homes. The lack of clarity was voiced by participants, pointing to the need for transparency regarding PDAM water's process from source to tap. This confusion undermines trust in PDAM water's quality and safety, especially during the dry season when water quality issues become more evident, leading some to seek alternative sources.

> *“I don’t know who the people delivering water through PDAM are, where they get the water, and how they clean it”*

Also, the reluctance to drink PDAM water due to safety concerns emphasizes the need for better and more regular communication about its quality, and for improving the quality, and treatment process. Many people prefer to refill water simply because they're unaware of the testing, treatment, and purification process PDAM water undergoes. Informing people (including other parties such as NGOs, school teachers, local leaders) about these processes and the safety standards PDAM water meets can help dispel fears and build trust in PDAM supply. By clarifying how PDAM water is safe people can be encouraged to shift towards connecting and using PDAM water. It requires PDAM to proactively increase transparency and educate consumers about every aspect of the water supply chain from sourcing and treatment to delivery, either through various paper or online media (e.g. video about the water treatment processes), and providing contact numbers. By increasing knowledge about PDAM water's safety and reliability, PDAM can build a foundation of trust and confidence among users, encouraging broader acceptance and use of PDAM water for drinking and other household purposes.

Portray piped water as clear and non-smelly and private wells as turbid and smelly: Addressing the common complaint about PDAM water's chlorine smell is pivotal in changing perceptions about its safety and suitability for use. The association of a chlorine smell with water treatment processes needs to be communicated effectively to alter perceptions positively, as some users note, *"PDAM water often smells like chlorine,"* and *"The only issue is the strong smell of chlorine after it has been fixed."* PDAM might explore other disinfection methods, however, by educating the public that the chlorine smell signifies a critical step of disinfection to ensure the water is free from harmful bacteria and pathogens, "*I'm not disgusted by PDAM water; the only issue is the chlorine smell",* PDAM can shift the narrative around the smell from a negative to reassurance of water safety to use PDAM water for drinking, and repositioning the presence of chlorine as a positive indicator of cleanliness and safety

Build trust with comprehensive communication and transparency: The lack of clarity surrounding PDAM's operational procedures, including water quality, cost implications, and outage schedules, significantly undermines consumer trust. This knowledge gap extends beyond concerns about water safety, touching on critical aspects that affect users' daily lives and financial planning. To bridge this gap, PDAMs must commit to transparent, ongoing communication that encompasses not only water treatment processes but also clear information on pricing, billing practices, and expected service interruptions through interactive and interesting mechanisms. Leveraging a variety of communication platforms, from social media to community meetings, ensures that all segments of the community receive timely, accurate updates. By openly sharing detailed information about service operations, including costs and how and when outages might occur, PDAMs can dispel existing misconceptions, thereby enhancing trust and encouraging broader utilization of PDAM water across households.

Boost service reliability through proactive responsiveness: The commitment to addressing customer concerns promptly is pivotal in demonstrating PDAM's dedication to service reliability. This commitment is underpinned by several strategies: comprehensive staff training to ensure readiness for various water supply issues, user-friendly reporting mechanisms for easy issue communication, streamlined processes for efficient problem resolution, and proactive system monitoring and predictive analytics to foresee and mitigate potential disruptions.

- Staff Training: Empowering employees with necessary skills for prompt service delivery boosts efficiency and customer trust.
- Reporting Mechanisms: Simplifying issue reporting through digital platforms ensures quick problem identification and resolution.
- Response Processes: Clear protocols for addressing reports minimize downtime and enhance customer satisfaction.
- Proactive Monitoring and Predictive Analytics: These tools allow PDAM to prevent issues before they affect customers, maintaining consistent service quality.

Implementing these measures strengthens PDAM's service reliability, demonstrating a clear prioritization of customer needs and building stronger trust and satisfaction within the community.

Multi-pronged communication for wider acceptance: A diverse communication strategy that leverages influential community members is essential for promoting piped water. Engaging with religious leaders, local community heads (RT), and social media influencers can extend PDAM's reach, making its message more persuasive and widespread. For instance, "...installed the water pump before Mrs. RT installed it," shows the influence of community leaders towards piped water. By employing a variety of platforms, from digital to face-to-face interactions, PDAM can ensure its advocacy for piped water is heard, enhancing the perception of piped water and encouraging its adoption.

Incorporating these strategies, PDAM can effectively address the barriers to trust and acceptance of its water services. Clear communication, proactive responsiveness, and engaging community advocacy are key to building a reliable and customer-oriented water service that meets the community's needs and expectations. This could include designing a marketing and branding strategy with professional agency to compete with branded bottled water and create targeted and personalised advertising for various customer groups, including mothers, young couples, etc.

Recommendation 5: Subsidise the installation cost and reduce or remove connection fees

High installation costs pose a significant obstacle for households considering PDAM water, raising concerns about affordability and the added expenses for essential infrastructure improvements like piping and storage. This financial challenge restricts the widespread adoption of piped water, indicating a need for targeted financial support. Strategies such as government subsidies, instalment plans, and extensive financial assistance programs are essential to enhance the accessibility of PDAM connections. In addition, communicating the longer-term cost savings to households, by comparing unit costs for piped water, air pikulan, pumping groundwater etc. Equally, advocating with local governments to support full cost recovery fees would alleviate the need for PDAMs to charge connection fees.

Address installation cost barriers with installment and subsidy and micro-credit solutions: The high installation cost presents a significant barrier for many households considering a switch to PDAM water. Concerns like, *"should be assistance with installation cost and monthly fees shouldn't be too expensive. I'm not interested if it's too costly,"* and observations that "*The cost of installing piped water installations is quite affordable, and can be paid in several times, but some can't afford the additional fees*," illustrate the financial challenges faced by potential users. The connection to PDAM is expensive for many households, as it not only involves installation costs but also requires additional expenses for water storage and the installation of new pipes for convenient use. Some households have a desire to install a PDAM connection but cannot afford the installation cost. The informant has registered to install a PDAM connection, with a cost of 900 thousand Rp, payable in 6 instalments. However, there are additional costs for

excavation and pipes, bringing the total expense to three million Rp. The ideal situation would be a PDAM connection fee of 900 thousand that can be paid in multiple instalments, without any additional charges, or to offer subsidies or micro-credit, particularly for low-income households. In some areas of Indonesia PDAM work with financing institutions to provide viable solutions for instalment payments.

The consensus suggests that while PDAM water itself could be the preferred choice for some household, the financial burden of initial setup, especially the extra costs for pipes and necessary installations, makes it inaccessible for some lower-income households. There is a clear call for government subsidies, micro-credit or more affordable options to assist with these upfront costs. Solutions like broader discount programs and the option for collective, instalment-based payments could make the process more financially manageable. PDAM is advised to introduce subsidies, micro-credit or financial assistance programs aimed at making the installation cost more manageable for households, especially those in economically disadvantaged positions or located far from the main pipelines. By subsidizing the connection costs, PDAM can alleviate the financial strain on families, making it more feasible for them to access clean and reliable piped water. It also could be done through collaboration with other organisations for loans and grants. Such initiatives should aim to cover not only the basic installation fee but also associated costs like excavation and piping, ensuring the total expense is within reach for more households. Ideally, these programs would offer flexible payment options, allowing expenses to be spread over time to reduce the burden of lump-sum payments. One participant in this research indicated that if it were affordable, they would join the piped system, pointing to the potential for increased adoption with the right financial support in place., By implementing these solutions, PDAM can significantly lower the entry barrier to piped water access, encouraging wider adoption and ensuring that more families can benefit from the service without financial hardship.

> *""If the installation cost is affordable, I might consider installing it"*

Recommendation 6: Allow for easy daily or weekly payment arrangements

The perception of PDAM water pricing varies widely, with some seeing it as an expensive luxury and others valuing its reliability and cost-effectiveness compared to alternatives like groundwater. This diversity in viewpoints highlights the need for PDAM to tailor its communication and service strategies. By providing clear information on costs and benefits, introducing flexible payment options, PDAM can address these varied perceptions. Simplifying access to PDAM services can help shift views towards seeing PDAM water as a convenient and economically sensible choice.

Facilitate accessibility with flexible payment solutions: Views on PDAM's pricing vary widely, showing that people have different financial situations and opinions on what they consider valuable. Some consider PDAM water a luxury, reserved for specific uses like "*making coffee and ice cubes because it's expensive*", or "*I'm not interested if it's too*

costly." Contrastingly, others regard PDAM's tariffs as reasonable, appreciating the service's reliability and convenience over alternatives, such as groundwater, which can significantly inflate monthly expenses: "*Our monthly electricity bill can go up to 900 thousand rupiahs when using well water.*" For some, the expense associated with installing a PDAM connection, coupled with the ongoing costs, is seen as expensive. This viewpoint is often influenced by the initial outlay required for connection and the perception that monthly tariffs add a substantial cost to household expenses.

The debate over cost extends to groundwater usage, with opinions split on its affordability. Some users highlight the hidden costs associated with groundwater, such as the significant increase in electricity bills from running pumps, making it an expensive option in the long run. Others perceive groundwater as a cheaper alternative, likely focusing on the absence of monthly water bills without fully accounting for the indirect costs.

These varied perceptions underline the complexity of cost considerations in water usage. They highlight the need for PDAM to continue enhancing its services and communication strategies to address these mixed perceptions. By clearly outlining the costs, communicating the real cost of groundwater and comparing it to PDAM, highlighting the benefits of PDAM water, by introducing easier payment plans such as small weekly instalments, and further educating on the safety and quality standards of PDAM water, the utility can better align its value proposition with the varied needs and concerns of its customer base. Simplifying access to and understanding of PDAM's pricing and services can shift the narrative towards recognizing PDAM water as a cost-effective and convenient choice for a broader range of household uses.

Suggested citation: UTS-ISF and UI, 2024, Guidance for PDAMs: Evidence-based recommendations to support increased connections to and use of piped water. Prepared by University of Technology Sydney's Institute for Sustainable Futures and Universitas Indonesia.

Research team: UTS-ISF: Juliet Willetts, Georgina Robinson, Safaa Aldirawi; UI: Cindy Rianti Priadi, Rahayu Handayani, Diana Terea Pakasi, Marini Purnamasari, Vida Parady, Ni Nyoman Sri Natih

Acknowledgements: This document was prepared as part of Australian government's Water for Women RECHARGE research project. Website: https://www.uts.edu.au/isf/explore-research/international-development/water-sanitation-and-hygiene-wash/recharge