



URBAN SLUM COMMUNITIES PERCEPTION OF DRINKING WATER SUPPLY IN BEKASI MUNICIPALITY

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This study aims to find out the urban slum communities' perception and problems regarding the fulfillment of the drinking water supply in Bekasi. Perception data is collected by conducting interviews and survey with the community in slum areas. Quantitative methods are used to evaluate social, economic, and environmental factors carried by questionnaires. From a total of 767 respondents, 65% (502 respondents) of them did not have access to piped drinking water. They meet the needs of clean water sources by buying gallons of water (52.2%), using groundwater (16%), and joint or shared piped drinking water (14%).

Keywords: Bekasi; low-income people; perception; slum area; water drinking

Introduction

Urbanization is the movement of population on a large scale in urban areas. It can have different impacts across geographic areas and income levels (developing and developed countries). This also has an impact on social vulnerability, pollution, and social inequality for the necessities of life, such as water supply (Ventriglio *et al.* 2021). The biggest challenges for drinking water services and management in urban areas are people living in urban slum areas or urban slum communities (Purbo *et al.* 2019). Urban slum communities who are part of urban communities also require sufficient water in quantity, quality, and continuity (Chui & Shi 2012; WHO 2012). One of the biggest problems in the slum area is the lack of a clean water supply (Bappenas 2016). Water is a crucial resource needed by humans to sustain life and build community welfare (WHO 2012). Urban slum areas facing changes in the water cycle as indicated by increasing water imports, reduced evapotranspiration, and water infiltration, poor water runoff, and increased waste



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disposal (McGrane 2016). Water resources in urban slum areas also continue to experience pressure and widespread land-use changes, environmental pollution, and climate change (Ding & Gosh 2017). These pressures increase the threat to water security to meet human needs, the risk of water shortages, and the decline in the function of urban ecosystems (Pahl-Wostl *et al.* 2012; Empinotti *et al.* 2019).

Water resource problems have an impact on several big cities in Indonesia, such as Bekasi municipality. This city has a fairly large percentage of slum households and a very small percentage of access to piped drinking water (Supriyatno 2020; Blöschl *et al.* 2019). The provision of safe access to drinking water must be provided to all strata of society (water for all) affordably and equitably to provide the principle of justice in fulfilling access to drinking water services (Gusdini *et al.* 2019). This is also in line with the Sustainable Development Goals target, which mandates universal and equitable access to safe and affordable drinking water for all. The coverage of drinking water services nationally until the end of 2018 only reached 87.75%, of which only 20.14% used safe access to piped drinking water (Bappenas 2019). Furthermore, drinking water services in urban areas that the service scheme uses a piped system led to another problem, in which the low-income people who live in urban slum areas could have difficulty to get access to these services (Otsuka *et al.* 2019; Price *et al.* 2019). This is because drinking water supplying regional companies in Bekasi carries out piped drinking water services as a business entity that carries out the function of regional government drinking water service providers prioritize services to community groups who have a high willingness to connect and willingness to pay (Berry *et al.* 2019; Borisova *et al.* 2019; Dey *et al.* 2019). This service priority perspective certainly makes low-income people not the main service priority to be targeted as potential customers (Lukito 2012; Pinto 2015; Han *et al.* 2017; Bekoe *et al.* 2018; Pietrucha-Urbanik & Rak 2020; Pradhan *et al.* 2021).

Urban slum communities in Bekasi who do not have access to piped drinking water and low-income people must buy clean water to meet their cooking and drinking needs at the minimum possible price of Rp. 5000 per 20 liters every day. It is mean that they have to spend approximately Rp. 150.000 per month to get 600 liters of water, which has not been able to meet their bathing and washing needs. This condition can be compared with non-low-income people communities who have access to pipes and become regional water companies' customers, they only pay Rp. 30.000 untill Rp. 70.000 per month for the use of 10 m³ (10,000 liters) of water. Seeing this comparison, the low-income people being forced to pay 10-30 times more than non-low-income people who have access to piped drinking water. For this reason, it is necessary to pay close attention to aspects to realize quality drinking water services for all communities based on the development of sustainable drinking water sector management (Bozorg-Haddad *et al.* 2021), namely; efficiency in the use of natural resources, effective in the allocation of resources used, and fair in providing access to reliable and quality drinking water across the socio-economic segregation of the community (Boukhari *et al.* 2018; Dong *et al.* 2018). Therefore, the objective of this research was to determine how the urban slum communities' perception and problems regarding the fulfillment of the drinking water supply in Bekasi.

Methods

Research design

This research uses a quantitative approach with cross-sectional study (Prayoga *et al.* 2021). Quantitative methods are used to evaluate social, economic, and environmental factors that affect the fulfillment of access to drinking water for low-income communities, which is carried out through the distribution of questionnaires. This research uses a case study approach to providing drinking water for low-income communities in urban slum areas. The selection of case studies focused on clean water-prone urban villages in Bekasi City includes 15 urban villages selected with the following considerations:

1. It still has a large slum area.
2. There are still many low-income communities that do not have access to a drinking water connection.
3. Has received the water grant program with the target criteria for beneficiaries are low-income communities in slum areas.

The inclusion criteria population in this research were all houses in slum areas which received and have not accessed to a piped drinking water house connection. This study used purposive random sampling by conducting interviews with selected respondents represented by the head of the family in each slum area. Identification of the slum area in Bekasi was carried out by the decree of the Mayor of Bekasi “No.600/Kep.379.A-Disbangkim /VI/2016” regarding the location of slums in Bekasi (Figure 1 and Table 1).

Data collection

Data collection techniques in this study used direct interviews about socio-economic conditions, access to clean water/drinking water, per capita low-income people expenditures, and low-income people expenditures to fulfill drinking/clean water needs, water-supply government policy, and environmental conditions with respondents and using a questionnaire as a research instrument.

Statistical analysis

The obtained data will be tabulated in Ms.Excel 2016. The data is presented using a descriptive statistical approach. We considered use a chi-square test to identify potential factors on water drinking perception such as income, education, environmental health perception, and households characteristics on water supply behavior. All data were analyzed using IBM SPSS V.20.

Results

The total data were collected using the questionnaire method and interviews with 767 respondents who lived in 15 urban villages as shown in Table 2. From the results, it is known that the profile of low-income people seen from the status of residence can be seen that the community with the status of their own residence is as many as 690 respondents (90%), the community with rental housing status is 56 samples (7%) and other answers such as occupying family houses and

occupying other people's land without permission as many as 21 respondents (3%) (Table 2). On average, respondents who live in slum areas have occupied their place of residence for 10-15 years (38%). Most of the respondents earn a living as traders (37.9%), factory workers (24%), store employees (15%), office employees (12.1%) and construction laborers (6%).

The average income of low-income people in this urban slum area, as many as 461 respondents (59.7%) have an average monthly income ranging from IDR 3,500,000-4,500,000 and as many as 201 respondents (26.6%) have an average monthly income above 4,500,000. There are still quite a lot of respondents who have an income of 1,500.00-2,500,000 (10.7%). According to the Bekasi City Minimum Salary in 2021 (Rp. 4,780,000), only 26.6 % of respondents have standard income. Moreover, the educational background, most of the low-income people's education were high school and junior high school graduates, with their main livelihood being trading (be it market traders, traveling traders, or street vendors) and factory workers. Based on the R square value, a value of 0.84 was obtained which indicated that education affected the income of the respondents. The correlation coefficient (r) between education and income is 0.289. This result means that a higher level of education will impact on high the income they get. There are significant association between education and income ($p < 0.05$).

Environmental factor

Environmental factors that influence the fulfillment of access to drinking water for low-income communities in urban slum areas are seen from the aspect of understanding the importance of clean water to the community's living environment, ownership of sanitation facilities, and knowledge of the existence of drinking water infrastructure in the living area. Approximately more than 90% of respondents stated that clean water is important as a parameter for a healthy environment (Table 3). The education of low-income people had a significant association on health environmental perception ($p = 0.002$). Furthermore, 683 respondents (89.0%) already have sanitation facilities (WC/Toilet), even though they do not have access to sustainable clean water. It has resulted in the condition of the sanitation facilities of low-income communities in this urban slum area which is not in good condition.

Conditions for fulfilling drinking water needs

The reality condition in slum area was the community need for drinking water as seen from access to piped drinking water, knowledge of the existence of piped access around the living environment, reasons for not getting access to piped drinking water and how people find it difficult to get clean water. There were 265 respondents (34.6%) had the access, while 502 respondents (65.4%) did not have access to piped drinking water from regional water companies. These results indicate that of the total response, only 35% can access clean water (Figure 2).

Respondents who did not have access then made efforts to meet their clean water needs. Several ways to meet the need for clean water include ground water (80 respondents), joint or sharing piped drinking water (71 respondents), buying public hydrants (18 respondents), other water sources such as rivers (69 respondents). There is an unexpected result that 2 respondents caught

rainwater for their water supply (Figure 3).

The crucial point found in this study is level expenditure of low-income people to get clean water. The highest majority amount of monthly average expenditure to meet the needs of drinking/clean water is IDR 500,000-750,000 as many as 404 respondents (52.7%). Furthermore, there were 8 respondents who spent IDR > 1,000,000 to get clean water a month (Figure 4). Referring to the average monthly expenditure that must be spent by low-income people in urban slum areas, a total of 475 respondents (61.9%) had difficulty paying monthly expenses for meeting their drinking water needs, and only 97 respondents (12.6%) did not experience difficulties in paying monthly expenditure to meet drinking water needs.

Perceptions of respondents in drinking water acces

Based on the total number of respondents who did not have access to drinking water, 502 respondents, 387 respondents stated that they needed access to adequate drinking water. On the other hand, 30 respondents stated that they did not need piped drinking water access. A total of 85 respondents who answered others, they could not answer because they could not understand the risks and consequences of getting access to piped drinking water and becoming a customer of regional water companies. Based on table 4, the causes of low-income people not being able to access piped water are mostly dominated by the inability to pay the installation fee (56%) and followed by not understanding the installation procedure (34.1%). Even though in terms of knowledge, the respondents regarding the existence of access to piped drinking water around their place of residence (64%). Almost all respondents said difficult to get clean water (68.1%). However, the people in the slum area (76%) do not feel the presence of government policies in dealing with the problem of access to drinking water. Interestingly, almost all respondents know about government programs related to drinking water supply (91%).

Government policy inclusive principle

Regarding the regional water companies' connection fee reduction program, as many as 702 respondents (91.5%) were not aware of the house connection fee reduction program implemented by the Bekasi City Government in the context of the Bekasi City Anniversary and the regional water companies such as Tirta Patriot Anniversary Bekasi City. From this data, it can be seen that the policy does not affect low-income people in urban slum areas. Low-income communities in urban slum areas are not aware of other government programs that help to make it easier to get access to decent and affordable drinking water. A total of 591 respondents (77.1%) do not know about government programs to fulfill drinking water and only 163 respondents (21.3%) knew with a limited understanding of the program (Table 5).

Discussion

Our research explained how the condition of fulfilling clean water in slum areas has not been resolved. This can be reflected in almost more than half of the total respondents not having access to piped drinking water. Looking at the characteristics of the respondents (Table 2), their average

income is IDR 3,500,000-4,000.00, which is still below the Bekasi City Minimum Salary IDR 4,782,935. An important finding in this study is the low-income people buy gallons every day and spend more than IDR 500,000 to meet his clean water needs. Surprisingly, there were respondents who have to spend more than IDR 1,000,000 to meet their clean water needs (Figure 4), while their income is still below of the Bekasi City Minimum Salary (Table 2). The results in line with Prayoga *et al.* (2021) which found low-income respondents bear the high cost of meeting clean water needs. In this case, an assessment of the fulfillment of good clean water should not exceed 3% of household income (von Heland *et al.* 2015).

Most of the low-income people did not have good access of clean water. However, most of them (387 respondents) have a great desire or need access to adequate clean water (Table 4). The main cause of low-income people not accessing piped water is the inability of the community to pay for the installation fee. In fact, low-income people's awareness of environmental health has been seen from the ownership of sanitation facilities by people in slum areas (Table 3). Unfortunately, sanitation facilities such as toilets are still far from proper, as a result of the unavailability of clean water. As an effort to realize a health environment, efforts to provide clean water by the Bekasi City government are urgently needed. This is also a form of effort to reduce the risk of diarrhea that causes of children pass away under 5 years due to poor sanitation and bad water access (Patunru, 2015).

In this study, almost 93% of respondents assumed that clean water was very important for environmental health (Table 3). Eventhough they live in a slum area, the community understands the importance of environmental health. Perceptions about understanding the importance of clean water are related to education and income. Prayoga *et al.* (2021) found in their study that knowledge is closely related to income and education. This pattern is also explained by Otto *et al.* (2015) who states that income is positively related to education and environmental awareness.

In this study, the use of groundwater is a second option after buying gallons of water (Figure 3). Nastiti *et al.* (2017) observed a combination of groundwater and piped-water sources in peri-urban Bandung, which groundwater is mostly used for intensive household needs such as washing, thus reducing their water bills. They will switch to piped water if the groundwater starts to dry up in the spring season. However, the use of groundwater in slum areas must be of particular concern. The water quality in the area is susceptible to contamination by *Escherichia coli*. The existence of *E.coli* population can be caused by fecal contamination and poor sanitation. In this study, we found that quite a lot of people use groundwater to meet their clean water needs. The perception of the use of groundwater is due to the high cost of access to piped water. Low-income communities tend to ignore the health factors of water quality such as the presence of microbes and chemicals contained in groundwater. A similar finding was described by Ko and Sakai (2022), they found the priority of drinking water utilization based on organoleptic rather than microbial and chemical qualities.

According to the results, we can see that almost all low-income communities in urban slum areas are not aware of any economic or social support from the government regarding the fulfillment of access to drinking water for low-income communities (Table 5). The government does not yet

have specific programs that are massive and dominant in providing inclusive policies to facilitate and accelerate access to drinking water for low-income people living in slum areas. Causing high rates of idle capacity for drinking water production that cannot be utilized for the service of the slum area, although they have not been directed to provide easy access to house connections for low-income communities in urban slum areas, are the budget policies, both national and provincial budget, that are still prioritized on developing drinking water systems and infrastructure as well as handling access to middle and upper commercial and residential areas.

In light of our finding, it can be seen that the low-income community in this slum area is very economically viable to pay the monthly bill of piped water access. When compared with their expenses for the fulfillment of clean water of IDR 500,000-1,000,000, this amount is more expensive than the monthly fee for piped water access, which is IDR 100,000-150,000. The low-income people desire to access piped water, but they are unable to pay a new installation fee IDR 1,350,000. Government policy efforts that favor low-income communities to obtain proper clean water need to be formulated precisely as an effort to achieve sustainable development goals (SDGs) in the drinking water and sanitation coverage sector (Hardati 2016). The Indonesian government should have specific programs that are massive and dominant in providing inclusive policies to facilitate and accelerate access to drinking water for low-income people living in slum areas.

Conclusions

The urban slum communities' perception regarding the fulfillment of drinking water from regional companies in Bekasi is still very low, which is reflected in more than 65% of low-income people in slum areas who do not have access to piped water due to inability to pay for the installation fee and buy gallons of water every day, which affects spending on access to clean water. These findings are very useful for formulating appropriate policy strategies to fulfill access of clean water in the slum areas as an equal effort to obtain proper clean water for all people living in Bekasi.

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References

- Bappenas (2019). Rancangan Teknokratik Rencana Pembangunan Jangka Menengah Nasional 2020-2024: Indonesia Berpenghasilan Menengah -Tinggi Yang Sejahtera, Adil, dan Berkesinambungan. Kementerian PPN/ Bappenas, Jakarta.
- Bappenas (2016). Tujuan Pembangunan Berkelanjutan. <http://sdgs.bappenas.go.id/> (accessed 25 July 2021)
- Bekoe, S., K. Atiso D.A. Ayoung, L. Dzandu and K.K. Kumangkem (2018). Examining internet

- usage patterns on socio-economic benefits of marginalised communities: the case of community information centres in Ghana. *Library Philosophy and Practice*, 1870:1-25.
- Berry J., G. Fischer and R. Guiteras (2019). Eliciting and utilizing willingness-to-pay: evidence from field trials in Northern Ghana. *Journal of Political Economy*, 128(4):1436-1473.
- Blöschl G., M.F. Bierkens, A. Chambel, C. Cudennec, G. Destouni, A. Fiori and M. Renner (2019). Twenty-three unsolved problems in hydrology (UPH)—a community perspective. *Hydrological Sciences Journal*, 64(10):1141-1158.
- Borisova, T., F. He, X. Bi, K. Grogan, T. Wade and S. Shah (2019). Valuing Florida water resources: Households' willingness to pay for water availability. *EDIS*, 2019(6):8.
- Boukhari, S., Y. Djebbar, H. Amarchi and A. Sohani (2018). Application of the analytic hierarchy process to sustainability of water supply and sanitation services: the case of Algeria. *Water Supply*, 18(4):1282-1293.
- Bozorg-Haddad, O., S. Komijani and E. Goharian (2021). Water and sustainable development. In: *Water Resources: Future Perspectives, Challenges, Concepts and Necessities*. O. Bozorg-Haddad (ed.), IWA Publishing, London, pp. 103-118.
- Chui, L. and J. Shi (2012). Urbanization and its environmental effects in Shanghai, China. *Urban Climate*, 2:1-15.
- Dey, N.C., M. Parvez, R. Saha, M.R. Islam, T. Akter, M. Rahman, M. Barua and A. Islam (2019). Water quality and willingness to pay for safe drinking water in Tala Upazila in a coastal district of Bangladesh. *Exposure and Health*, 11(4):297-310.
- Ding, G.K.C. and S. Gosh (2017). Sustainable water management – a strategy for maintaining future water resources. In: *Reference Module in Earth Systems and Environmental Sciences*. S. A. Elias (ed.), Elsevier, USA, pp. 91-103.
- Dong, X., X. Du, K. Li, S. Zeng and B.P. Bledsoe (2018). Benchmarking sustainability of urban water infrastructure systems in China. *Journal of Cleaner Production*, 170:330-338.
- Empinotti, V.L., J. Budds and M. Aversa (2019). Governance and water security: the role of the water institutional framework in the 2013–15 water crisis in São Paulo, Brazil. *Geoforum*, 98:46-54.
- Gusdini, N., M.J.J. Purwanto, K. Murtiaksnono and Kholil (2019). Affordability of water service from perspective of water security of community in Bekasi district. *Journal of Resources Development and Management*, 60:38-44.
- Han, S., D.D. Koo, Y. Kim, S. Kim and J. Park (2017). Gap analysis-based decision support methodology to improve level of service of water services. *Sustainability*, 9(9):1578.
- Hardati, P. (2016). Acces to the infrastructure of settlement for sustainable development goals in rural district Semarang, Central Java, Indonesia. *Advances in Social Science, Education and Humanities Research*, 79:124-128
- Ko, S.H. and H. Sakai (2022). Perception of water quality, and current and future water consumption of residents in the central business district of Yangon City Myanmar. *Water Supply*, 22(1):1094-1106.
- Lukito, R. (2012) *Legal Pluralism in Indonesia: Bridging the Unbridgeable* 1st edn. Routledge,

UK.

McGrane, S.J. (2016). Impacts of urbanisation on hydrological and water quality dynamics, and urban water management: a review. *Hydrological Sciences Journal*, 61(13):2295-2311.

Nastiti, A., B.S. Muntalif, D. Roosmini, A. Sudradjat, S.V. Meijerink and A.J.M. Smits (2017). Coping with poor water supply in peri-urban Bandung, Indonesia: towards a framework for understanding risks and aversion behaviours. *Environment and Urbanization*, 29(1):69-88.

Otsuka, Y., L. Agestika, N.S. Widyarani and T. Yamauchi (2019). Risk factors for undernutrition and diarrhea prevalence in an urban slum in Indonesia: focus on water, sanitation, and hygiene. *The American Journal of Tropical Medicine and Hygiene*, 100(3):727-732.

Otto, S., A. Neaman, B. Richards and A. Mario (2015). Explaining the ambiguous relations between income, environmental knowledge, and environmentally significant behavior. *Social and Nature Resources*, 29:628-632.

Pahl-Wostl, C., L. Lebel, C. Knieper, and E. Nikita (2012). From applying panaceas to mastering complexity: toward adaptive water governance in river basins. *Environmental Science & Policy*, 23:24-34.

Patunru, A.A. (2015). Acces to safe drinking water and sanitation in Indonesia. *Asia & the Pacific Policy Studies*, 2(2):234-244.

Pietrucha-Urbanik, K. and J.R. Rak (2020). Consumers' perceptions of the supply of tap water in crisis situations. *Energies*, 13(14):3617.

Pinto, F.S., J.R. Figueira, and R.C. Marques (2015). A multi-objective approach with soft constraints for water supply and wastewater coverage improvement. *European Journal of Operational Research*, 246(2):609-618.

Pradhan, N.S., P.J. Das, N. Gupta, and A.B. Shrestha (2021). Sustainable management options for healthy rivers in South Asia: the case of Brahmaputra. *Sustainability*, 13(3):1087.

Prayoga, R., A. Nastiti, S. Schindler, S.W.D. Kusumah, A.D. Sutadian, E.J. Sundana, E. Simatupang, A. Wibowo, B. Budiwanto and M. Sedighi (2021). Perceptions of drinking water service of the "Off-Grid" community in Cimahi, Indonesia. *Water*, 13 (1398):1-15.

Price, H., E. Adams and R.S. Quilliam (2019). The difference a day can make: the temporal dynamics of drinking water access and quality in urban slums. *Science of The Total Environment*, 671:818-826.

Purbo, R.K., C. Smith and R. Bianchi (2019). Lessons learned from public-private partnerships in Indonesia's water sector. *Bulletin of Indonesian Economic Studies*, 55(2):193-212.

Supriyatno, B. (2020). The attitude and role of Bekasi City government in slum areas. *Journal of Human Behavior in the Social Environment*, 30(2):228-242.

Ventriglio, A., J. Torales, J.M. Castaldelli-Maia, D. De Berardis and D. Bhugra (2021). Urbanization and emerging mental health issues. *CNS Spectrums*, 26(1):43-50.

Von Heland, P.F., M. Nyberg, A. Bondesson and P. Westerberg (2015). The citizen field engineer: crowdsourced maintenance of connected water infrastructure. *Third International Conference on ICT for Sustainability (ICT4S 2015)*, 2015:146-155.

WHO. (2012). Global Tuberculosis Report.

www.who.int/iris/bitstream/10665/75938/1/9789241564502_eng.pdf (accessed 25 July 2022)

Table 1. Slum areas and distribution of respondents.

Sub-District	Urban Village	Hamlet	Neighborhood	Slum area (Ha)	Number of Respondents
North Bekasi	Margamulya	01	05	9.29	52
	Kaliabang Tengah	06	02	14.30	60
	Perwira	07	02	2.57	51
	Harapan Jaya	16	07	14.20	58
	Harapan Baru	08	03	4.36	43
	Teluk Pucung	04	01	7.35	50
West Bekasi	Jakasampurna	03	02	1.20	58
	Kota Baru	01	02	1.83	41
	Bintara Jaya	10	01	2.12	60
	Bintara	04	07	2.50	50
	Kranji	04	03	4.54	44
Medan Satria	Kalibaru	05	01	22.26	58
	Medan Satria	07	03	3.00	70
	Harapan Mulya	03	05	13.35	30
	Pejuang	01	04	2.30	42
Total				105.17	767

Table 2. Respondents characteristic

Attribute	Results (%)
Gender	
Male	74
Female	26
Education	
Elementary School	1,3
Junior High School	23,1
Senior High School	63
Associate Degree	3,5
Bachelor	5,1
Others	4
Residence status	
Owner	90
Rent	7
Other	3
Number of family	
≤3	23,1
4	7,9
5	30,9
≥6	28,2
Duration of residence	
1-5 years	12
5-10 years	19
10-15 years	38
15-20 years	31
Jobs	
Factory workers	24
Store employee	15
Trader	37,9
Construction laborers	6
Office employes	5
Others	12,1
Average monthly income	
≥4.500.000	26,6
3.500.000-4.500.000	59,7
2.500.000-3.500.000	2,9
1.500.000-2.500.000	10,8

Table 3. Environmental parameters.

Attribute	Responses
Understanding the importance of clean water	
Important	
Quite important	713 (93 %)
Not important	49 (6,4 %)
Others	1 (0,1%)
	5 (0,5 %)
Sanitation facilities	
Has sanitation facilities	683 (89 %)
Has no sanitation facilities	77 (10 %)
Others	7 (1 %)

Table 4. Public perception in drinking water acces.

Attribute	Responses
Drinking water acces	
Urgently require	141
Need	246
No Need	29
Unecessary	1
Other	85
Causes of low-income people does not have access to piped water	
Did not understand the installation procedure	
Unable to pay the installation fee	
Can't pay the monthly water bill	171 (34,1 %)
No need	281 (56 %)
Others	16 (3,2%)
	20 (4 %)

	14 (2,8%)
Community knowledge on access to piped drinking water	
Knowing	
Do Not Know	321 (64 %)
Undecided	141 (28%)
	40 (8 %)
Difficulty level on water fullfiling	
Very Difficult	141 (28,1 %)
Difficult	221 (44 %)
Quite difficult	45 (9 %)
Less difficult	65 (12,9 %)
Easy	15 (3 %)
Other	15 (3 %)
Public perceptions on goverment policies supporting acces drinking water	
Feel	169 (22 %)
Did not feel	583 (76%)
Undecided	15 (2 %)
Public knowledge of grant program from goverment in water drinking sectors	
Know	698 (91 %)
Did not know	54 (7 %)
Others	15 (2 %)

Table 5. Community Understanding of regional water company's new connection fee reduction program

Respondent response	Total	%
Knowing	53	6.9
Do not know	702	91.5
Other	12	1.6

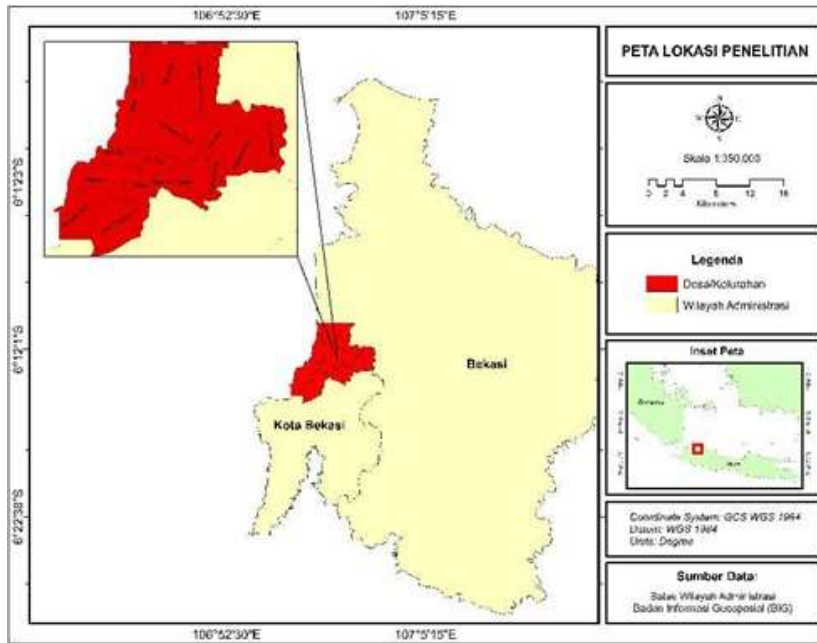
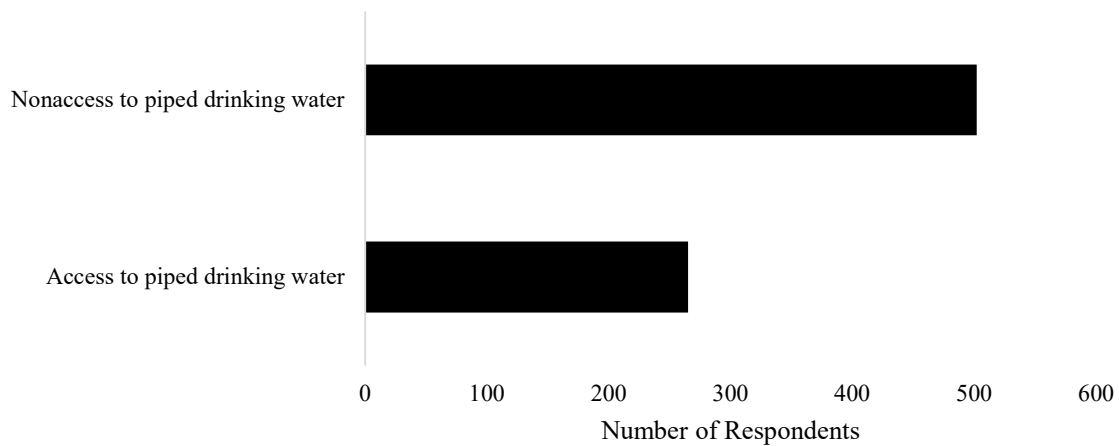


Figure 1. The location of slums in Bekasi



Figure

2. Comparison of people who access piped drinking water.

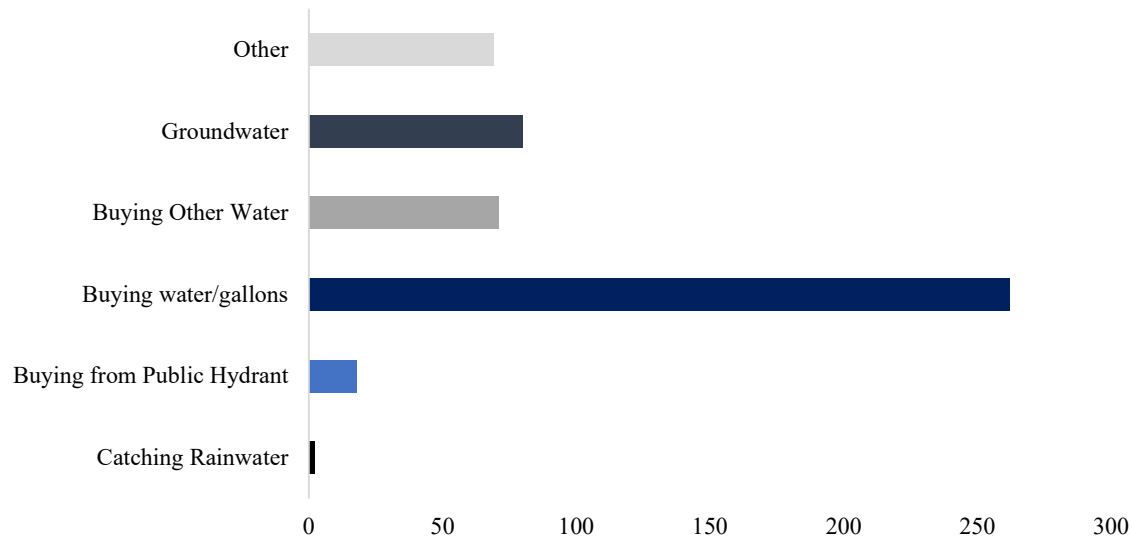


Figure 3. Fulfillment of clean water for respondents who do not access piped drinking water.

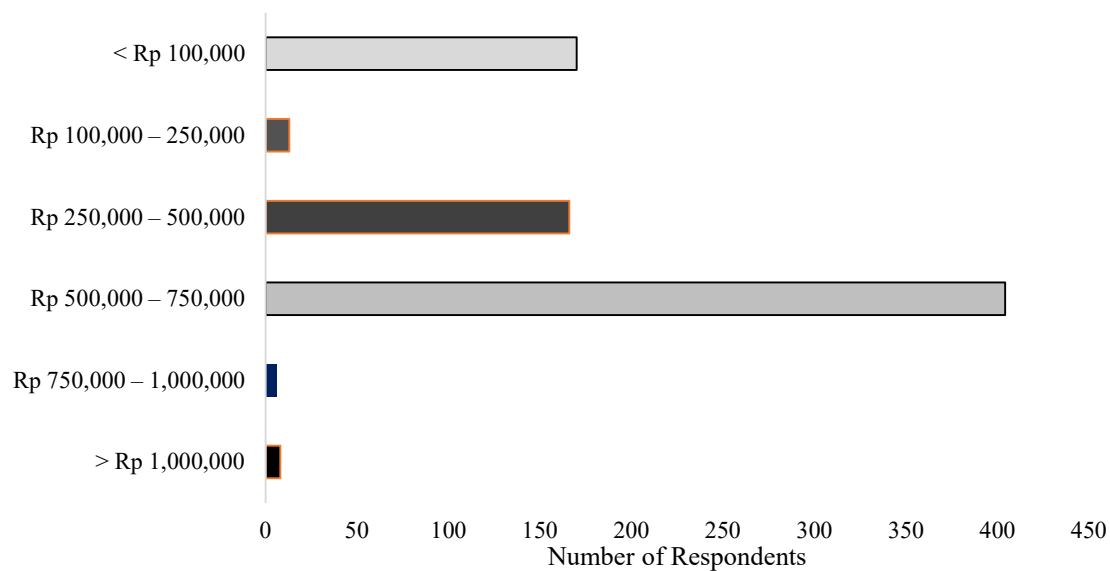


Figure 4. Average monthly expenditure for drinking/access clean water.

Figure Captions

Figure 1. The location of slums in Bekasi

Figure 2. Comparison of people who access piped drinking water

Figure 3. Fulfillment of clean water for respondents who do not access piped drinking water

Figure 4. Average monthly expenditure for drinking/access clean water