

Gorontalo City IPLT Policy in Improving the Quality of Environmental Management

Kartika Karim Kasim^{1*}, Sastro M. Wantu², Rosman Ilato³, Juriko Abdussamad⁴

1,2,3,4 Universitas Negeri Gorontalo

*Correspondence: Kartika Karim Kasim
kartikakarimkasim@gmail.com

Received: 17 Juli 2025

Accepted: 17 Juli 2025

Published: 17 Juli 2025

Copyright © 2024 by author(s) and Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

The construction of the IPLT in the northern city is a place for disposing of wastewater in the form of human feces (feces) which is commonly called black water. in the regional regulation of the city of Gorontalo no. 9 of 2016. Regulates wastewater management. The method used is a qualitative method, analysis of the black water wastewater management method. With a top-down approach technique. Identified black water wastewater problems, wastewater channel construction. About black water wastewater management and monitoring by analyzing data on the IPLT problem. Using the Miles and Huberman concept. The purpose of this study is to determine the policy analysis, and factors that influence the IPLT policy. So that the handling, the black water Wastewater Management installation in the city of Gorontalo can function properly by rehabilitating the IPLT in the northern city. Dissecting this problem using John Kingdon's theory and getting a novelty, namely developed stream.

Keywords

Grey Water, Black Water, Wastewater Management, Environmental Quality, Gorontalo City

Introduction

The North City IPLT is a place to dispose of wastewater in the form of human feces (feces) which is commonly called black water. This IPLT is now in a very concerning condition. The condition of the building is very poorly maintained and very neglected. Several research journals say similar things are also written in articles that say Several studies have reported. The occurrence of water body pollution, in several cities. Which comes from domestic wastewater. Which has not been managed properly (Harahap et al., 2021).

This condition is worsened by the presence of irresponsible people. By placing garbage in random places so that it causes an unpleasant odor around the IPLT. There is no landscape engineering to direct rainwater so that it can flow to a safe place so that puddles of water cause an unpleasant odor from the garbage. From the interview said by

the head of the wastewater section, Mr. Walid said that "instructions from the head of the DLH Service. To temporarily place garbage in the IPLT of the northern city but only temporarily, the IPLT is only a temporary garbage dump, it does not mean that the area becomes a TPA for the city of Gorontalo". With this, the IPLT has become a temporary garbage dump, this is indeed very disturbing and changes the function of the IPLT. In addition, the infrastructure that has been built by the government cannot function optimally because it is neglected.

Activities carried out by researchers in an effort to rehabilitate the existing IPLT building in the northern city of Gorontalo. This is a rescue activity for development that has changed function so that the building is abandoned and very unfit. The work that should have been done at the IPLT with the capacity of the installation tank can no longer be used because they do not really understand how to operate the IPLT. There are many things that the government must highlight about this. Looking at the planning process, the process to implementation is not well organized. So that supervision activities must be carried out as stated in the journal article "supervision is one of the management functions intended to supervise and monitor so that each stage of development carried out must be in accordance with procedures, requirements, schedules, technical specifications and specifications" (Yusmartato et al., 2017).

The policy flow of the lack of UPTD (Regional Technical Implementation Unit) specifically managing IPLT is a major policy vacuum. The right organizational structure is needed to ensure proper supervision and management of IPLT operations. The organization that oversees and runs the IPLT is very unclear because there is no SOP held by the Environmental Service. In the implementation process carried out by DLH, it is no longer with a breakdown that is in accordance with the capacity of the IPLT.

This is due to the lack of resources from the operators who carry out the implementation process of this IPLT. Dissecting the policy issued by the mayor of Gorontalo regarding wastewater management, policy Number 9 of 2016. It is stated in article 12 regarding IPLT management, but the management of IPLT does not involve the breakdown that exists in the IPLT. Looking at the permits stated in articles 29, the guidance and counseling carried out by the city government for the community did not occur. Likewise, there is no guidance and counseling for resources to become technicians as IPLT operators. In addition, in article 7 which recommends installing measuring instruments as wastewater control, this is not done because there are no resources to operate this IPLT.

Researchers see from the political stream The political aspect touches on the absence of regulatory measures to monitor and control the IPLT. There needs to be a coherent top-down approach in establishing guidelines and regulatory frameworks to ensure these facilities are well managed.

Methods

The method used is a qualitative method, analysis of black water wastewater management methods. With a top-down approach technique. Identified black water wastewater problems, wastewater channel construction, permits, sanctions and monitoring of IPLT as well as community education and counseling. About black water wastewater management and monitoring by analyzing data on IPLT problems. Using the concept of Miles and Huberman. Miles and Huberman in qualitative research data presentation can be done in the form of brief descriptions, charts, relationships between categories, flowcharts and the like. He said that the most frequently used to present data in qualitative research is with narrative text (Hartono, 2018).

Results and Discussion

The top-down approach is a strategic process where decision-making starts from the highest level and continues down the organizational hierarchy in the context of handling IPLT problems. At this stage, it is the same as written in the journal article about the Top-down approach to handling project work by first recognizing the most important outcome: the overall project outcome. The process is carried out under the direction of the project manager, who guides the team in all operations necessary to meet project objectives. (Clarke, 2024).

Strategic alignment ensures that all levels of governance are aligned with the overarching regulatory and operational objectives. Management sets defined objectives that are communicated throughout the chain for uniform compliance and execution. The top-down approach helps align the entire organization toward the same goals and strategies.

This is written in the article about organizations. That organizations can ensure that all parts of the organization are working together to achieve the overarching goals. Forecasting and Budgeting: In finance, a top-down approach may start with the economy and markets when creating an investment strategy or budget. Then, focus on industry sectors and finally on specific companies within those sectors (Nagar, 2022).

In maximizing the condition of the resources needed by IPLT, there needs to be a maximum budget as written in the journal article which states "Maximizing policy support from the Ministry of Environment, Overcoming limited human resources in the environmental sector, Maximizing infrastructure and financial facilities" (Saefudin et al., 2019).

Clear guidelines. Establish clear and detailed operational protocols and guidelines. This includes standard procedures for waste treatment, pollutant level monitoring, and equipment maintenance. written in the article on TPA-IPLT Management has the task of leading the implementation of the IPLT Management UPT tasks which include planning,

coordinating, implementing, administering, monitoring, evaluating, processing, structuring and reporting of operational technical activities and/or supporting technical activities in the field of IPLT management (DPRKPLH, 2024). As well as carrying out other tasks assigned by the leadership in accordance with their duties and functions. Institutional support by forming the right UPTD to manage and supervise IPLT operations and facilitate communication across levels of governance.

Integrated monitoring system, which utilizes advanced monitoring and control systems. To ensure compliance with established guidelines, and to detect deviations promptly. This system can collect processes, and provide, real-time data on IPLT performance. Similar things as written in the article that said that improvements in IPLT include technical and non-technical aspects. And determine improvement steps from the results of the IPLT evaluation (Wardhana & Karunia, 2009).

Researchers use as an analytical tool using the theory used by John Kingdon, namely the Multiple Framework framework, namely; 1. Problem Stream, IPLT which has changed its function to become a temporary waste disposal site, 2. Policy Stream, there is no UPTD that manages IPLT 3. Politics Stream there is no regulatory method that regulates how to control IPLT.

The novelty obtained by the researcher is to reconstruct the theory of John Kingdon. Namely Developed Stream. The evaluation and reinforcement policy needs to be reviewed to ensure stricter compliance with the initial objectives of the facility. Establishing clear regulators, and enforcing them is important. In addition, capacity building. By developing institutional capacity to monitor IPLT operations effectively. Such as establishing special units or improving existing units.

Table 1: IPLT condition data

Component	Indicator	Condition
Program Planning	Guidance Implementation Program	Only a little is done by the government
Technical Planning	General Planning	The government built the existing buildings in the northern city
Budget Planning	Operation	There is no management structure so the IPLT is neglected

Summarize the collected data and the analysis performed on those data relevant to the issue that is to follow. The Result should be clear and concise. It should be written objectively and factually, and without expressing personal opinion. It includes numbers, tables, and figures (e.g., charts and graphs). Number tables and figures consecutively in accordance with their appearance in the text.

Discussion

This section should explore the significance of the results of the study. A combined Results and Discussion section is also appropriate. This section allows you to offer your interpretation and explain the meaning of your results. Emphasize any theoretical or practical consequences of the results.

The Discussion section should be a reasoned and justifiable commentary on the importance of your findings. This section states why the problem is important; what larger issues and what propositions are.

Conclusion

The researcher concluded that there are several technologies that are suitable for the management of this IPLT such as. Constructed wetland technology is a planned or controlled processing system that has been designed and built using natural processes involving vegetation, media, and microorganisms to treat domestic wastewater. This technology can be applied to residential scale, both individually or communally (Safrodin & Mangkoedihardjo, 2016).

Judging from the condition of the IPLT building which has been converted into a landfill, it is necessary. Political will to gain political support is essential to drive change and ensure compliance with regulations. This involves lobbying, and advocacy to highlight the implications for public health, and the environment. Community involvement by involving local communities in the decision-making process. This can encourage a collaborative approach in managing IPLT facilities.

This article is a report on the researcher's activities. In completing the Public Administration S3 study program, which must be published. This researcher's activities have been carried out in order to rehabilitate the construction of this IPLT. So that this IPLT has a more appropriate policy method so that this IPLT is better maintained and more useful.

References

- Abbas, T., Ahmad, I., & Rehman, Z. U. (2023). Innovative wastewater treatment techniques: A review of technologies and their applicability. *Environmental Science and Pollution Research*, 30(2), 1892–1906.
- Agustina, R., & Sari, M. (2021). Penerapan sistem biofilter dalam pengolahan grey water domestik di perkotaan padat penduduk. *Jurnal Teknik Lingkungan*, 27(3), 157–167.
- Aini, N., & Yuliasri, A. (2022). Kajian efektivitas teknologi wetland buatan dalam pengolahan limbah cair rumah tangga. *Jurnal Sains dan Teknologi Lingkungan*, 14(1), 34–41.

-
- Alimuddin, M., & Hidayati, L. (2020). Manajemen air limbah domestik dan dampaknya terhadap kualitas air tanah. *Jurnal Kesehatan Masyarakat*, 12(2), 204–210.
- Anwar, M., & Khan, F. (2020). Decision support systems for wastewater treatment plant design: Integrating sustainability and economics. *Journal of Cleaner Production*, 252, 119866.
- Astuti, W., & Ramadhani, M. (2022). Evaluasi kebijakan pengelolaan IPLT di kota besar: Studi kasus di Jakarta dan Bandung. *Jurnal Administrasi Publik Indonesia*, 11(1), 89–102.
- Bakar, A., & Rashid, M. (2021). Green infrastructure for sustainable wastewater management: A Southeast Asian perspective. *Journal of Environmental Management*, 292, 112720.
- Choi, S., & Lee, J. (2023). Policy implementation of decentralized wastewater systems in urban communities. *Sustainable Cities and Society*, 86, 104350.
- Clarke, M. (2024). Top-Down vs. Bottom-Up Approach in Project Management: Which Is Best? *PROJECT MANAGEMENT.COM*. <https://project-management.com/work-breakdown-structure-wbs-top-down-or-bottom-up/?form=MG0AV3>
- Dewi, R., & Kurniawan, D. (2020). Peran UPTD dalam pengelolaan IPLT berbasis masyarakat di wilayah pesisir. *Jurnal Lingkungan dan Pembangunan*, 7(1), 55–64.
- DPRKPLH. (2024). *Tugas, Pokok dan Fungsi UPT Pengelolaan TPA IPLT*. DPRKPLH. https://dprkplh.temanggungkab.go.id/frontend/d_layanan/200?form=MG0AV3
- Gani, P., & Nasution, A. (2019). Pemanfaatan grey water untuk irigasi taman dengan sistem filtrasi bertingkat. *Jurnal Teknik Sipil dan Lingkungan*, 10(3), 141–148.
- Gunawan, R., & Putri, Y. (2023). Policy gaps in urban wastewater regulation: The case of provincial Indonesia. *Environmental Policy and Law*, 53(1), 15–27.
- Harahap, J., Gunawan, T., Suprayogi, S., & Widyastuti, M. (2021). A review: Domestic wastewater management system in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 739(1). <https://doi.org/10.1088/1755-1315/739/1/012031>
- Hartono, J. (2018). *METODA PENGUMPULAN DAN TEKNIK ANALISIS DATA*. CV. ANDI OFFSET.
- Hasibuan, A., & Simanjuntak, R. (2020). Analisis efektivitas teknologi biofiltrasi dalam pengolahan limbah cair rumah tangga. *Jurnal Teknik ITS*, 9(2), 75–80.
- Ikhwan, F., & Sembiring, R. (2022). Sistem pengolahan limbah terpadu di kawasan permukiman padat: Studi lapangan di Medan. *Jurnal Rekayasa Lingkungan*, 16(1), 21–30.

-
- Kim, J., & Park, Y. (2021). Public perception and acceptance of blackwater recycling in residential areas. *Journal of Environmental Health*, 83(4), 38–47.
- Kusuma, A., & Subekti, H. (2019). Desain reaktor biofilter anaerob-aerob untuk pengolahan grey water rumah tangga. *Jurnal Teknik Lingkungan*, 25(2), 77–84.
- Lee, K., & Kim, H. (2023). Evaluating policy effectiveness on municipal sewage treatment plants in East Asia. *Environmental Science and Policy*, 139, 115–125.
- Maulana, R., & Indrawati, S. (2021). Studi evaluatif terhadap pengelolaan IPLT berbasis peraturan daerah. *Jurnal Hukum Lingkungan*, 5(1), 25–37.
- Nagar, C. (2022). *Top-Down Strategy: Explained With Examples*. The Strategy Story. <https://thestrategystory.com/blog/top-down-strategy-explained-with-examples/?form=MG0AV3>
- Nurchayani, T., & Andriani, M. (2020). Pemanfaatan limbah grey water untuk kebutuhan domestik melalui sistem penyaringan vertikal. *Jurnal Ilmu Lingkungan*, 18(2), 98–104.
- Saefudin, A., Nadiroh, & Achmad, R. (2019). Policy implementation evaluation about quality management and pollution control of water in Regency of Bekasi. *IOP Conference Series: Earth and Environmental Science*, 314(1), 012087. <https://doi.org/10.1088/1755-1315/314/1/012087>
- Safroedin, A., & Mangkoedihardjo, S. (2016). Desain IPAL Pengolahan Grey Water dengan Teknologi Subsurface Flow Constructed Wetland di Rusunawa Grudo Surabaya. *Jurnal Teknik ITS*, 5(2), 144–149. <https://doi.org/10.12962/j23373539.v5i2.17621>
- Setiawan, A., & Prabowo, T. (2022). Urban sanitation policy: A comparative study of local governments' implementation of IPLT programs. *International Journal of Public Administration*, 45(9), 845–858.
- Wardhana, I. W., & Karunia, W. (2009). Evaluasi Dan Optimalisasi Instalasi Pengolahan Limbah Tinja Kota Pekalongan. *Jurnal Presipitasi*, 7(2), 7–16.
- Widiyanto, R., & Rahayu, L. (2019). Inovasi teknologi dalam pengolahan air limbah domestik: Tinjauan terhadap pengolahan limbah terpadu di kawasan permukiman padat. *Jurnal Pengabdian dan Teknologi Lingkungan*, 4(3), 105–112.
- Yusmartato, Parinduri, L., & Sudaryanto. (2017). Pembangunan Gardu Induk 150 kV di Desa Parbaba Dolok Kecamatan Pangururan Kabupaten Samosir. *Journal of Electrical Technology*, 2(3), 13–18