



Management of Islamic Education Facilities and Infrastructure at the State Islamic High School of Insan Cendekia Pekalongan, Central Java

Kasiman Mahmud Desky; Sujito; Purwanto

Islamic Education Management, Postgraduate UIN Raden Mas Said Surakarta, Indonesia

<http://dx.doi.org/10.18415/ijmmu.v12i6.6862>

Abstract

This study aims to describe the management of infrastructure at MAN IC Pekalongan. The research method used in this study is descriptive qualitative. The subjects of the study include: the head of the madrasah and the deputy head of the madrasah infrastructure. Data collection in this study was conducted using observation methods, in-depth interviews, and documentation. Data analysis in this study used the Miles & Huberman interactive model. The steps of interactive model data analysis include four steps. The four steps include: data collection, data reduction, data display, and drawing conclusions. Infrastructure management at MAN Insan Cendekia (IC) Pekalongan City includes seven important stages that are interrelated and related to support the learning process effectively and efficiently. The first stage is planning, procurement of infrastructure, distribution, maintenance, inventory, deletion and evaluation. By implementing these seven stages systematically, infrastructure management at MAN IC Pekalongan City is expected to create a conducive learning environment, support improving the quality of education, and help madrasahs achieve their educational goals effectively and efficiently.

Keywords: *Management; Infrastructure; Islamic Education*

Introduction

Educational infrastructure is an important component in education and is one of the eight national education standards. Educational infrastructure is so important that every institution competes to meet educational infrastructure standards in order to improve the quality of education, not only that, the completeness of infrastructure is one of the attractions for prospective students. In fact, infrastructure is an indicator of the quality of education (Siswanto & Hidayati, 2020). Management infrastructure is an activity that regulates the preparation of all equipment/materials for the implementation of the education process in the madrasah (Rohiat, 2012; Barnawi, 2012). Management Infrastructure is needed to help smooth the teaching and learning process.

Realizing good education is needed infrastructure in supporting the process of organizing education. Preparing infrastructure thoroughly is needed to support the continuity of education and ensure effective learning (Firman & Arnyana, 2023; Putri et al., 2023). Infrastructure is the most important

component in implementing an education program so that the objectives of the education program can be achieved in accordance with previously determined objectives.

As is Infrastructure is expected to support the teaching and learning activities of students in madrasahs, so that students can learn comfortably, effectively and efficiently. Therefore, it is necessary to have management or be able to manage educational infrastructure properly and correctly. The purpose of managing educational infrastructure is to provide appropriate educational services so that educational goals can run effectively and efficiently. (Nasution, 2021).

At MAN Insan Cendekia (IC) Pekalongan, the existence and management of educational facilities and infrastructure (sarpras) is one of the vital aspects in supporting superior and competitive education quality. As a madrasah that prioritizes integration between general and religious knowledge, MAN IC Pekalongan consistently strives to meet the standards of sarpras as stipulated in the eight National Education Standards. Facilities such as complete science laboratories, modern libraries, representative classrooms, and comfortable dormitories not only support the effectiveness of the learning process, but are also the main attraction for prospective students from various regions. Systematic and planned management of sarpras shows that MAN IC Pekalongan understands the importance of sarpras management as a foundation in implementing quality education.

Furthermore, the readiness of infrastructure at MAN IC Pekalongan not only reflects compliance with national education regulations, but also becomes a strategic instrument in creating a conducive learning environment. With good infrastructure management, this madrasah is able to ensure the continuity of an effective, efficient, and optimally oriented learning process towards achieving student competencies. The existence of adequate infrastructure allows for the creation of an active and meaningful learning process. Therefore, infrastructure management at MAN IC Pekalongan is not only an administrative aspect, but also a real manifestation of the madrasah's commitment to providing the best educational services for all students.

Based on the problems described above, the research question is formulated as to how is the management of infrastructure at MAN IC Pekalongan? In accordance with the research question, the purpose of this study is to describe the function of infrastructure management at MAN IC Pekalongan. The results of this study will be very useful for educational institution managers related to infrastructure management.

Theoretical Review

Infrastructure management is the management of infrastructure in an educational institution that supports educational goals. Furthermore, the infrastructure management process includes: planning, procurement, distribution, use, maintenance, inventory, and disposal. (Bafadal, 2003). This process is very important in increasing the efficiency of educational institutions. (Astuti et al., 2023). An explanation of each infrastructure management process is presented below.

Planning is a process of thinking both in outline and in detail. (Bafadal, 2003). Adequate infrastructure increases learning effectiveness and achievement. (Fanani, 2023). In addition, why planning is so important because it is related to achieving educational goals. (Faudillah et al., 2024). Therefore, planning needs to be done systematically.

Procurement of infrastructure is basically to provide infrastructure that is in accordance with the needs to achieve educational goals. (Fathurrochman *et al.*, 2021; Nanda & Annova, 2023). The main function of infrastructure procurement is to meet the infrastructure needs of students and teachers. (Nurhikmahyanti, 2014). The method of procuring infrastructure can be done by purchasing,

self-production, receiving grants, renting, borrowing, recycling, exchanging, and rehabilitating. (Prastiawan, 2016).

Distribution of infrastructure is an inseparable part of the management process. Therefore, proper distribution is very important. (Maila et al., 2024). Distribution is the process of transferring goods and responsibilities to those who need the goods. (Rusydi & Banurea, 2017; Fauzan, 2018; (Hermawan, 2020). Thus, the success of the distribution process is largely determined by the accuracy of the goods, targets, and conditions that match the needs of the recipient.

Maintenance is an important part of infrastructure management (Baidowi et al., 2024). Without maintenance of infrastructure, it will result in damage. Maintenance of educational facilities aims to ensure that all infrastructure can still be used optimally in supporting the achievement of educational goals. (Mulyadi et al., 2022). The purpose of this maintenance activity is to extend the service life of the equipment for cost efficiency, ensure smooth operations for maximum results, maintain equipment availability through routine checks, and ensure user safety, including students. (Tajuddin & Natalia, 2023). However, in certain cases maintenance needs to be carried out by people with special skills. (Matin & Fuad, 2016).

Inventory is the activity of recording infrastructure goods into the master book. Furthermore, inventory of goods in the field of education is the activity of recording all assets owned by the school to ensure that management and control are carried out clearly, thus facilitating the reporting process. (Ulfah et al., 2024). Inventory is the systematic management and arrangement of state property. (Novita, 2017).

The write-off is carried out with the aim of reducing the institution's losses related to the maintenance of goods or equipment, increasing budget efficiency, freeing the institution from the responsibility of security, guarding, and maintenance of goods, and reducing the inventory burden. The process of writing off infrastructure involves selecting, recording, and reporting goods or facilities that have been damaged, which can then be followed by steps of sale, auction, or giving to other parties in the form of grants. (Alfaizah et al., 2021).

Guba & Lincoln (1985) who views evaluation as a process of describing and considering students from the perspective of their value and usefulness. Stufflebeam & Shinkfield (2012) Evaluation is the process of describing, obtaining, and providing descriptive and appraisal information about the value and benefits of some object's goals, design, implementation, and impacts to guide decision making, serve the need for accountability, and promote understanding of the phenomena involved.

Research Methods

The approach used in this research is qualitative (Graue, 2015; Toro et al., 2013; Zurqoni et al., 2019). The qualitative approach in this study aims to describe the function of infrastructure management at MAN IC Pekalongan. The research subjects included: the head of the madrasah and the deputy head. infrastructure.

Data collection in this study was carried out using observation methods, in-depth interviews, and documentation. This observation method was carried out by observing the infrastructure at MAN IC Pekalongan. The documentation used in this research is documents related to management. infrastructure Islamic education at MAN IC Pekalongan. Interviews in this study were conducted to obtain data related to the infrastructure management functions that have been carried out so far. The documents include regulations or circulars on infrastructure management policies, strategic and operational plans for infrastructure management, budget documents and fund allocations, infrastructure maintenance and care reports, infrastructure inventories, infrastructure audit reports, infrastructure quality assessment documents, and photographs related to infrastructure management activities in madrasahs.

Data analysis in this study uses an interactive model (Miles et al., 2018). The steps for analyzing interactive model data include four steps. The four steps include: data collection, data reduction, data display, and drawing conclusions.

Data collection in this study was carried out using the interview method to obtain detailed and in-depth information regarding the views of the subjects studied. Furthermore, the observation method was carried out to observe the infrastructure. Furthermore, documentation was carried out to find out data related to the function of infrastructure management.

Data reduction includes the process of completing, sorting, simplifying, and categorizing data which is intended to facilitate data organization and data analysis needs and drawing conclusions. At this stage, the data collected is selected, sorted, and simplified according to the focus of this study, namely the function of infrastructure management. This means that data that is not relevant to the focus of the study is not used in this study.

The presentation of data in this study is done through a brief description of each subject and informant of this study separately which is based on the formulation of the problem in this study. All identities of subjects and informants in the study are presented in a hidden manner by using initials which are then changed into the data code of this study. This is done to maintain the confidentiality of the identities of the subjects and informants in this study.

Drawing conclusions or verification is intended for researchers to seek holistic meaning from various propositions found about the focus of the study. Drawing conclusions is done by interpreting the conclusions of the theme. This means that conclusions are made based on the theme and research problems, namely those related to the function of infrastructure management which includes: planning, procurement, distribution, maintenance, inventory, disposal, and evaluation of infrastructure.

Results and Discussion

The results and discussion in this study are focused on the function of infrastructure management at MAN IC Pekalongan. The intended function of infrastructure management includes: planning, procurement, distribution, maintenance, inventory, disposal, and evaluation of infrastructure. Sequentially presented below.

Infrastructure Planning at MAN IC Pekalongan

Planning is the initial and important step in managing educational infrastructure. The infrastructure planning process at MAN IC Pekalongan City is carried out through the following steps: compiling a list of needs, estimating costs, determining priority scales, and compiling procurement plans. This process is usually carried out through a work meeting attended by the principal, teachers, and staff to discuss and prepare the required infrastructure. The following are the findings of infrastructure planning at MAN Islam Cendekia Pekalongan.

Table 1. Infrastructure Planning at MAN IC Pekalongan

No.	Planning Function	Findings
1.	Compiling a list of needs	The list of needs is compiled based on input from various parties in the madrasah. This process is sourced from the medium-term document (RKJM), then described into annual needs (RKT).
2.	Estimated costs	Estimates are made based on the units to be built, with estimated costs adjusted through previous experience and standard unit prices. If not approved by the center, then other alternatives are sought.
3.	Setting priorities	Priorities are determined from the results of mapping actual needs and based on medium-term and annual planning documents. The most urgent needs will be prioritized, such as additional classrooms and dormitory capacity.
4.	Preparation of procurement planning	Procurement is designed with reference to RKJM/RKT, adjusted to actual needs and priority scale. Procurement proposals are submitted through the SIMPRO application system (Kemenag) and coordinated with the team and secretary of sarpras.

Based on table 1, it shows that the planning of infrastructure at MAN IC Pekalongan City is carried out in a structured manner and based on strategic madrasah documents. Planning is carried out through four main functions: compiling a list of needs, estimating costs, determining priority scales, and compiling procurement plans. The following is a description of the findings and their discussion.

The preparation of the list of infrastructure needs is the initial stage carried out by gathering input from various units in the madrasah. This process refers to the Medium-Term Work Plan (RKJM) document, which is then described in the Annual Work Plan (RKT). This reflects a bottom-up planning approach that accommodates actual needs in the field. Based on this strategic document, infrastructure needs are prepared not only based on momentary desires, but through a process of rational analysis and long-term projections. Determination of infrastructure needs must be based on demand analysis and future projections. (Fisch-Romito & Guivarch, 2019).

Cost estimation is done based on the plan of the unit to be built, with reference to previous experience and applicable unit price standards. This estimate is the basis for preparing the procurement proposal and becomes a realistic benchmark between needs and budget availability. This cost estimate is important to determine the certainty of the funds needed. (Al-Qudah et al., 2015). If the application is not approved by the center (in this case the Ministry of Religion), the madrasah takes the initiative to seek alternative financing such as involving third parties. This strategy shows the flexibility and adaptability of the institution in facing budget constraints.

The priority scale is determined through mapping of actual needs, both based on the physical condition of infrastructure and the growth in the number of students. This determination refers to the RKJM and RKT, so that it can be ensured that the priorities are objective and focused. (Fitriani, 2021; (Noven & Inayati, 2024). With this approach, madrasahs are able to direct resources to the aspects that have the most influence on the continuity of the learning process.

Procurement of infrastructure is designed by considering the list of needs and priority scales that have been prepared. This process is carried out digitally through the SIMPRO (Program Management Information System) application owned by the Ministry of Religion, which ensures accountability and efficiency of management. Submissions are made by madrasah components, including principals,

teachers, and staff, involved in this process (Torismayanti et al., 2023; Wijono & Riyadi, 2023; Khairi et al., 2023). This approach reflects the principles of collaborative and integrative management, which strengthens the synergy between leadership elements in maintaining the direction of madrasah development.

Overall, these findings indicate that infrastructure planning at MAN IC Pekalongan City is implemented by prioritizing systematic, participatory, and strategic document-based principles. This practice not only supports the achievement of physical development effectiveness, but also reflects accountable and service-quality-oriented educational governance.

Procurement of Infrastructure and Infrastructure for MAN IC Pekalongan

Procurement of infrastructure at MAN IC Pekalongan City is carried out through a predetermined procedure. This means that the procurement process of infrastructure is carried out through prior planning. The following describes the procurement of infrastructure carried out at MAN IC Pekalongan City.

Table 2. Infrastructure procurement at MAN IC Pekalongan

No.	Procurement function	Findings
1.	Purchase	In general, procurement of infrastructure is carried out through purchases using digital methods based on government applications such as LKPP, LPSE, and SIMPRO, following the mechanisms established by the Ministry of Religion and the Ministry of Finance.
2.	Grant	Madrasahs obtain grants from third parties, especially through networks of parents who work in strategic institutions such as BUMN (PLN, Telkom, BRI, etc.) or who have access to CSR sources.
3.	recycling	There are indications that the madrasah utilized old items as long as possible without replacement unless they were really damaged or if there was new construction. This indicates a form of efficiency or repeated use.
4.	Rehabilitation	Rehabilitation is carried out periodically, especially for physical buildings. Maintenance funds come from DIPA or parental participation, especially during school holidays.

Based on table 2, procurement of infrastructure at MAN IC Pekalongan City shows a diverse and adaptive approach, adjusted to government regulations and internal conditions of the institution. Based on the results of the study, there are four main functions in procurement of infrastructure: purchasing, grants, recycling, and rehabilitation.

Procurement of infrastructure is predominantly carried out through digital purchasing mechanisms integrated with government systems such as LKPP (Government Goods/Services Procurement Policy Agency), LPSE (Electronic Procurement Services), and SIMPRO (Kemenag Program Management Information System). This process follows the procurement standards set by the Ministry of Religion and the Ministry of Finance. This platform helps reduce corruption and increase accountability in the public procurement process (Ibem & Laryea, 2014; Afolabi et al., 2022). The use of this digital system demonstrates transparent, efficient, and accountable governance practices, in line with the principles of good governance. In addition, this system also helps ensure that the specifications of goods are in accordance with needs and avoids potential deviations.

In addition to purchases, madrasas also receive infrastructure through grant schemes from third parties, especially parents of students who have access to state institution resources or companies through CSR programs. These grants are generally in the form of supporting equipment or digital devices needed by schools. This helps increase community participation and supports the implementation of government functions related to infrastructure (Xia et al., 2018; Ankersmit, 2020; Montalbán-Domingo et al., 2022). This approach shows that madrasas have established strategic partnerships and built social networks that support institutional strengthening.

The findings show that madrasahs make maximum use of old items and only replace them when they are completely damaged or when new construction is carried out. This pattern shows the existence of efficiency and sustainability principles in asset management. Recycling reflects the spirit of optimal utilization of existing resources, as well as awareness of the limitations of the state budget. In addition, it suppresses the new procurement process (Wahyan et al., 2021). This practice is also in line with the life-cycle management-based asset management approach.

Rehabilitation is carried out periodically, especially for physical buildings such as classrooms, laboratories, and dormitories. Funds for rehabilitation come from DIPA (Budget Implementation List) allocations and parental participation, which is usually done when students are on school holidays so as not to disrupt the learning process. Good rehabilitation and management of infrastructure has been proven to increase the satisfaction of madrasa residents, student achievement, and the quality of learning (Fitriani, 2021; Torismayanti et al., 2023). Thus, the sustainability of infrastructure functions can be maintained in the long term.

Distribution of Infrastructure for MAN IC Pekalongan

Distribution or distribution is the activity of transferring and responsibility from a person in charge of storage to units or people who need the goods. Utilization infrastructure at MAN IC Pekalongan City runs optimally to support student learning and development. The following are the findings of the distribution of infrastructure at MAN IC Pekalongan.

Table 3. Distribution of MAN IC Pekalongan Infrastructure

No	Distribution Function	Findings
1	Accuracy of Goods	The accuracy of infrastructure at MAN IC Kota Pekalongan includes the suitability of the quantity, quality, and placement of goods according to unit needs, which is supported by a planned distribution system and cross-sectional verification. Although most basic needs have been met, several obstacles such as broken equipment, overlapping schedules, and an unorganized borrowing system are still found. Improvement efforts, such as routine maintenance and procurement of ICT based on needs, demonstrate a commitment to National Education Standards, although a more accurate reporting and management system is needed to maintain the effectiveness of infrastructure.

2	Target accuracy	The accuracy of the target of infrastructure in MAN IC Pekalongan City is reflected in the allocation that considers strategic functions and the number of users, such as the priority of updating devices in computer laboratories and the provision of chairs and tables in crowded classrooms. Procurement is based on requests accompanied by reasons for use, monitored directly in the field, and evaluated each semester. Although there are still obstacles such as equipment damage and overlapping use of space, in general the distribution of infrastructure is quite on target, but still requires improvements in maintenance and scheduling to be more optimal.
3	Accuracy of barabgf condition	The condition of the infrastructure at MAN IC Kota Pekalongan is generally quite good and supports the learning process, with inventory such as tables, chairs, projectors, and laboratory equipment still suitable for use. However, some items such as air conditioners and laboratory computers show a decrease in quality due to age. This indicates the need for routine maintenance so that the infrastructure remains functional and meets standards. Although management has followed the provisions of PMA No. 60 of 2015, strengthening the maintenance and periodic evaluation aspects is still needed to ensure the sustainability of the quality of educational services.

Based on table 3 distribution infrastructure At MAN IC Pekalongan City, it has been implemented through the principles of accuracy of goods, accuracy of targets, and accuracy of conditions, although there are still technical and operational challenges.

Distribution of infrastructure has considered the suitability of quantity, quality, and placement according to unit needs. This process is supported by a cross-sectional verification system and needs-based procurement. Distribution also considers student needs and program priorities. (Busaeri, 2019; Gusli et al., 2023). However, obstacles such as broken equipment, overlapping schedules, and an unorganized borrowing system indicate the need for improvements in the reporting system and inventory management so that distribution effectiveness can be optimal.

The allocation of infrastructure has been directed to units with strategic functions and the most users, such as computer laboratories and crowded classrooms. The procurement mechanism based on written requests and periodic evaluations shows that the targets are appropriate, although technical obstacles such as damage and conflicts in the use of space are still found. (Hardiana & Sholihah, 2024). This indicates the need to strengthen the scheduling and maintenance system.

In general, the physical condition of the infrastructure supports the learning process. However, some equipment shows a decline in function due to age. Although management has followed PMA Regulation No. 60 of 2015, intensification of maintenance and periodic evaluation is needed to maintain the quality and sustainability of the infrastructure function.

Maintenance of MAN IC Pekalongan Infrastructure

Maintenance is the activity of caring for, maintaining, and storing goods according to their type so that the goods are durable and long-lasting. Maintenance is a crucial aspect in the management of educational facilities, because unmaintained facilities can cause discomfort for their users. The following are the findings of infrastructure maintenance at MAN Islam Cendekia, Pekalongan City.

Table 4. Maintenance of infrastructure at MAN Islam Cendekia Pekalongan

No.	Maintenance Function	Findings
1.	Cost efficiency	The cost efficiency of infrastructure maintenance at MAN IC Kota Pekalongan is realized through budgeting sourced from DIPA, namely the operational funds of the madrasah from the government. This budget is allocated in a planned manner to support routine maintenance, repairs, and replacement of facilities, to ensure that the infrastructure remains optimal, functions optimally, and has a longer service life.
2.	Operational smoothness	Routine maintenance is carried out so that the function of the infrastructure remains optimal. This is important to ensure that the learning process and school activities run smoothly without being disturbed by technical obstacles.
3.	Availability of equipment	Maintenance of infrastructure involves joint tasks between internal staff such as cleaning services, gardeners, and technicians, as well as external parties for special technical repairs. A clear division of tasks aims to ensure that equipment is always available and well maintained, supporting the smooth operation of the madrasah.
4.	User safety	User safety is maintained through reporting of infrastructure damage by all members of the madrasah, although it is still predominantly verbal and ineffective. The madrasah plans a more orderly reporting system. Routine maintenance strategies are also implemented to extend the life of the infrastructure.

Based on table 4 Maintenance infrastructure at MAN IC Pekalongan City is implemented as an integral part of educational facility management, with a focus on budget efficiency, operational smoothness, equipment availability, and user safety.

Efficiency in infrastructure maintenance is realized through planned budget management sourced from DIPA. This fund is used for routine maintenance activities, repairs, and replacement of facilities. This strategy aims to maintain the sustainability of infrastructure functions in the long term and prevent sudden expenses due to unmonitored damage.(Siagian et al., 2024).

Routine maintenance of infrastructure is carried out to ensure that educational facilities are always ready for use. This activity supports the smooth running of the learning process and operational activities of the madrasah, by minimizing technical disruptions that can hinder academic and administrative activities. Routine maintenance extends the life of educational facilities and equipment, ensuring that they remain functional and safe for use.(Purnomo, 2022)

Maintenance tasks are divided between internal personnel such as technicians, cleaning services, and gardeners, as well as external parties for repairs that require special skills. Collaboration in infrastructure maintenance is important to maintain infrastructure.(Harini et al., 2024). This collaboration allows for responsive and targeted maintenance, so that equipment is always available in a serviceable condition and can optimally support the operational needs of the madrasah.

Infrastructure maintenance is also oriented towards the safety of madrasa residents. The damage reporting system is still informal and predominantly verbal, so it is necessary to develop a more orderly and documented reporting system. Routine maintenance not only extends the service life of the infrastructure, but also minimizes potential safety risks due to facility damage. Overall, the maintenance

strategy at MAN IC Kota Pekalongan shows a long-term orientation towards the optimal and sustainable functioning of the infrastructure. Although the implementation has gone well, strengthening the reporting system and digital technical supervision is an important aspect to be improved in order to ensure the quality of education services.

Inventory of MAN IC Pekalongan's Infrastructure

Inventory is one of the important efforts in infrastructure management so that it can run orderly and regularly. Infrastructure inventory activities, there are several things that must be considered, namely recording infrastructure, creating infrastructure item codes, reporting infrastructure in the madrasah, and accountability for what is reported about the condition of infrastructure in the madrasah. The following are the findings of the infrastructure inventory at MAN Islam Cendekia, Pekalongan City.

Table 5. Inventory of Facilities and Infrastructure at MAN Islam Cendekia Pekalongan

No.	Inventory Function	Findings
1	Recording and Updating of Infrastructure Data	The initial recording process is still done manually by infrastructure officers. After that, the data is inputted into the BMN system for updates and reporting. Updates are carried out periodically, especially after procurement or transfer of goods.
2	Coding and Labeling of Goods	Each item is given an inventory code according to its category, year of acquisition, and classification of use. The main items already have an inventory label, but items with a value below Rp2,000,000 are not immediately recorded as fixed inventory but are included in the daily use or operational support list.
3	Inventory Reporting and Accountability	Infrastructure officers prepare periodic reports on the condition and status of the use of goods. The report is submitted to the head of the madrasah and uploaded to the BMN system. Responsibility for data and condition of goods is the authority of the inventory officer and the user of the goods. There is documentation of the handover minutes and photos of the condition of the goods.
4	Audit and Evaluation of Infrastructure Inventory	Internal audits are routinely conducted by madrasahs to review the conformity of data and the physical condition of goods. The Ministry of Religion also conducts external audits as regular supervision of inventory accuracy.

Based on table 5, the inventory of infrastructure at MAN IC Pekalongan City is carried out systematically to ensure the accuracy of asset data, accountability for use, and efficiency of management of state-owned goods. The four main functions in this process include recording and updating data, providing item codes, reporting, and internal and external audits.

The initial recording process of infrastructure is still done manually by officers, then inputted into the BMN (State Property) system as part of a digital-based reporting and management mechanism. Recording goods can increase effectiveness in infrastructure recording management (Ulfah et al., 2024). Data updates are carried out periodically, especially after procurement activities or transfer of goods, to ensure the validity of the asset information owned.

Each item is given an inventory code that includes the category, year of acquisition, and classification of use. High-value items have been fully labeled as fixed inventory, while items worth less than Rp2,000,000 are included in the daily use or operational support list. This system shows the administrative separation between strategic assets and operational assets. (Ulfah et al., 2024).

Reporting is carried out periodically by the infrastructure officer to the head of the madrasah and reported through the BMN system. Responsibility for the condition and use of goods is divided between the inventory officer and the direct user. Physical evidence in the form of minutes and visual documentation is prepared as a basis for administration and audit. This reflects the implementation of the principle of accountability in asset management.

Internal audits are routinely conducted by madrasahs to ensure the conformity of administrative data with the condition of goods in the field. External audits by the Ministry of Religion serve as a form of regular supervision of the accuracy and compliance of inventory procedures. This evaluation encourages improving the quality of state asset management in the educational environment.

Removal of MAN IC Pekalongan Infrastructure

Deletion is an activity of educational infrastructure management that aims to eliminate the institution's inventory items by following the applicable rules, laws, and regulations. Therefore, the elimination of infrastructure is not just an administrative action, but a process based on objective considerations and accountability in accordance with applicable provisions. The following are the findings of the elimination of infrastructure at MAN Islam Cendekia Pekalongan.

Table 6. Elimination of infrastructure facilities at MAN Insan Intellectuals Pekalongan

No	Aspects of Deletion	Findings
1	Item Identification (Selection)	Damaged or unusable items are identified by the Deputy Head of Infrastructure and staff as a basis for write-off. Small items such as ladles are replaced and immediately recorded as write-offs.
2	Recording	Items to be deleted are recorded administratively and documented in the form of photographs before being removed from the inventory system.
3	Reporting	Deputy Head of Sarpras as the person in charge of coordinating the deletion process. For large items, the deletion process should be carried out through auction, but its implementation has not been optimal.
4	Removal Action	The write-off is done in two ways: destruction or auction system (although the auction cannot be carried out by the madrasah). Unused items are replaced with new ones and re-recorded as new assets.

Based on table 6, the deletion of infrastructure at MAN IC Pekalongan City is part of the asset management cycle to maintain the efficiency and accuracy of inventory data. This process includes four main aspects: identification of goods, recording, reporting, and deletion actions.

The elimination of educational facilities and infrastructure is an important activity to free educational institutions from assets that are no longer functioning.(Setiyadi et al., 2024). The deletion process begins with the identification of unusable items, carried out by the Deputy Head of Sarpras and related staff. Small items such as sanitation equipment are immediately replaced and recorded as deleted items. The deletion process of sarpras can usually be carried out on assets that are over five years old, but if it is seen that they are still suitable for use, they will continue to be used.(Hadiyatunnisa et al., 2023). The approach taken by the madrasah shows an awareness of the importance of updating assets, although it is still practical and limited to small items.

Items to be deleted are recorded administratively and documented visually (photos of item conditions) before being deleted from the inventory system. This is done to reduce the inventory burden so that it can increase the effectiveness and efficiency of madrasah education.(Hasnadi, 2022; (Ningsih,

2020). Judging from these efforts, the madrasah has implemented the principles of accountability and transparency in auditing and reporting assets.

Reporting is done by the Deputy Head of Sarpras acting as a coordinator in the deletion process and is responsible for reporting to the head of the madrasah. For high-value items, the deletion process should be carried out through an auction mechanism in accordance with statutory regulations (Fauzi, 2020; Alfaizah et al., 2021). However, in practice, the auction implementation has not been running optimally due to limited authority or technical procedures that are not yet available at the educational unit level.

The act of elimination is carried out through two mechanisms, namely destruction for totally damaged goods and an auction system for goods that still have utility value. Goods that still have economic value are auctioned, while those that are no longer marketable or have no value are destroyed (Mustari, 2014; Ananda & Banurea, 2017). Unused items are usually replaced with new items and recorded as new assets in the inventory system. Thus, the process of eliminating madrasah infrastructure has been running, although the auction aspect requires further improvement to comply with the regulation on the elimination of state-owned goods.

Evaluation of MAN IC Pekalongan's Infrastructure

Evaluation is a final activity carried out to determine the level of truth or review activities that have been carried out previously. The layout of the infrastructure is strategically designed to be easily accessible, with the support of health facilities and initial efforts towards inclusivity. In addition to meeting national standards, this madrasah continues to develop infrastructure through sustainable planning to create a comfortable, efficient, and inclusive learning environment. The following are the findings regarding the evaluation of infrastructure at MAN IC Kota Pekalongan.

Table 7. Infrastructure Infrastructure Evaluation at MAN IC Pekalongan

No	Evaluation Function	Findings
1	Utilization of infrastructure	Utilization of infrastructure at MAN IC City Pekalongan is running optimally to support student learning and development. Modern facilities such as projectors, laboratories, Wi-Fi, and art, sports, and health rooms are actively used in academic and non-academic activities. Observations and interviews show that all infrastructure is truly utilized effectively and integrated into the madrasah education system.
2	Standard conformity	infrastructure at MAN IC City Pekalongan generally meets national standards and is strategically arranged for easy access.
3	Accessibility	MAN IC City Pekalongan provides complete and standard educational facilities with a layout that facilitates access for all madrasah residents. Although it is comfortable and efficient, accessibility for students with special needs still needs to be improved. Madrasah is committed to developing new facilities that are inclusive and easily accessible.

Based on table 7, evaluation of the function infrastructure at MAN IC Pekalongan City shows that the utilization, compliance with standards, and accessibility of infrastructure have fulfilled the principles of effectiveness and inclusiveness in supporting the education process.

Utilization of infrastructure is one indicator of the level of good or bad services provided by educational institutions (Firmansyah et al., 2018). The results of observations and interviews show that the use of infrastructure is integrated in the education system, which reflects the efficiency and suitability of the function of the facility with educational goals. This perspective is in line with the view The Last Supper (2013) which states that one of the indicators of a quality school is the availability of adequate learning process support. Infrastructure is utilized optimally to support learning activities and student development, both in academic and non-academic areas. Facilities such as projectors, laboratories, Wi-Fi networks, art, sports, and health rooms are actively used by the madrasa community.

In general, the infrastructure at MAN IC Pekalongan City has met national education standards, both in terms of type, quantity, and layout. Strategic arrangement makes it easier for users to access and use the available facilities. This conformity supports the achievement of National Education Standards (SNP) and strengthens the support of madrasahs in implementing the curriculum as a whole. Therefore, optimizing the use of infrastructure is a crucial aspect so that the objectives of educational activities can be achieved effectively and efficiently. (Pahlevi et al., 2016; Pure, 2018; Mishadin, 2012). This can only be realized through effective and efficient management of infrastructure. (Khoriyah, 2015), as has been implemented at MAN IC Pekalongan City.

The educational facilities available have been designed with ease of access for all members of the madrasah. Functional and efficient spatial planning creates a comfortable learning environment. However, the accessibility aspect for students with special needs still needs strengthening. Nevertheless, the madrasah shows a commitment to developing more inclusive infrastructure, as part of an effort to realize education that is friendly to all.

Conclusion

Based on the research results, the management of facilities and infrastructure (sarpras) at MAN Insan Cendekia Pekalongan City has been carried out systematically, participatively, and accountably through six main aspects: planning, procurement, distribution, maintenance, inventory, and disposal, accompanied by continuous evaluation. Strategic document-based planning such as RKJM and RKT is carried out in a participatory manner, while procurement uses digital systems such as SIMPRO and LPSE and is supported by grants and recycling. The distribution of sarpras pays attention to target accuracy, although there are still technical obstacles. Maintenance is carried out collaboratively between internal and external officers to ensure efficiency and safety. Inventory of sarpras is recorded manually and integrated into the BMN system, with routine reporting and audits, while the disposal of sarpras has been carried out according to procedure, although the auction of large items still needs to be improved. Management of sarpras at MAN IC Pekalongan City supports an effective, efficient, and inclusive learning process. The use of facilities has been in accordance with national education standards, although accessibility for students with special needs still needs to be improved. This practice shows that the madrasa has implemented the principles of good governance in educational management that is oriented towards quality and sustainability.

References

- Afolabi, A., Ibem, E., Aduwo, E., & Tunji-Olayeni, P. (2022). Digitizing the grey areas in the Nigerian public procurement system using e-Procurement technologies. *International Journal of Construction Management*, 22(12), 2215–2224.

- Al-Qudah, S., Meridji, K., & Al-Sarayreh, K. T. (2015). A comprehensive survey of software development cost estimation studies. *Proceedings of the International Conference on Intelligent Information Processing, Security and Advanced Communication*, 1–5.
- Alfaizah, I. M., Harapan, E., & Tahrur, T. (2021). Management of facilities and infrastructure in junior high school. *JPGI: Jurnal Penelitian Guru Indonesia*, 6(2), 348–351. <https://doi.org/https://doi.org/10.29210/021053jpgi0005>.
- Alfaizah, I. M., Harapan, E., & Tahrur, T. (2021). Management of facilities and infrastructure in junior high school. *JPGI (Jurnal Penelitian Guru Indonesia)*, 6(2), 348. <https://doi.org/10.29210/021053jpgi0005>.
- Ananda, R., & Banurea, O. K. (2017). *Manajemen Sarana dan Prasarana Pendidikan*. CV. Widya Puspita.
- Ankersmit, L. (2020). The contribution of EU public procurement law to corporate social responsibility. *European Law Journal*, 26(1–2), 9–26.
- Astuti, M., Suryana, I., Novita, P. D., Emiliya, Sari, L., & Oktapiani, R. (2023). Perencanaan Sarana dan Prasarana pada Lembaga Pendidikan. *Semantik : Jurnal Riset Ilmu Pendidikan, Bahasa Dan Budaya, Vol 1*(No 4), 4.
- Bafadal, I. (2003). *Seri Manajemen Peningkatan Mutu Pendidikan Berbasis Sekolah, Manajemen Perlengkapan Sekolah Teori Dan Aplikasi*. PT Bumi Aksara.
- Baidowi, A., Abdus Shobur, F., & Ali, M. (2024). Pemeliharaan Sarana Dan Prasarana Pendidikan Di Sekolah Menengah Pertama. *Journal of Islamic Studies*, 3(1), 39–46.
- Barnawi, M. A. (2012). Manajemen sarana dan prasarana sekolah. *Ar-Ruzz Media*.
- Busaeri, U. A. (2019). *Manajemen sarana dan prasarana madrasah: Studi analisis kebutuhan sarana dan prasarana di Madrasah Aliyah Nasyrul Ulum Kota Cilegon*. UIN Sunan Gunung Djati Bandung.
- Fanani, M. A. (2023). The Urgency of Facilities and Infrastructure in Improving the Quality of High School Education. *Journal of Insan Mulia Education*, 1(2), 38–44. <https://doi.org/10.59923/joinme.v1i2.6>.
- Fathurrochman, I., Siswanto, S., Anggraeni, R., & Kumar, K. S. (2021). Pengadaan Sarana dan Prasarana Pendidikan dalam Menunjang Mutu Pembelajaran di SDN Lubuk Tua Kabupaten Musi Rawas. *Jurnal Darussalam: Jurnal Pendidikan, Komunikasi Dan Pemikiran Hukum Islam*, 13(1), 65–75. <https://doi.org/10.30739/darussalam.v13i1.1288>.
- Faudillah, A. N., Armanila, A., Munthe, A. F., & Khairi, R. (2024). Pentingnya Administrasi Sarana dan Prasarana Pendidikan. *Ta'rim: Jurnal Pendidikan Dan Anak Usia Dini*, 5(1), 32–39.
- Fauzan, A. (2018). Manajemen Sarana dan Prasarana Pondok Pesantren Shuffah Hisbullah Natar Lampung Selatan. *IQRA' (Jurnal Kajian Ilmu Pendidikan)*, 3(1), 255–256.
- Fauzi, M. I. F. (2020). Manajemen Sarana dan Prasarana Pendidikan. *Al-Rabwah*, 14(2), 90–115.
- Firman, F., & Arnyana, I. B. P. (2023). Analysis of Basic Education Policies Related to Facilities and Infrastructure. *International Journal of Contemporary Studies in Education (IJ-CSE)*, 2(1), 73–77. <https://doi.org/10.56855/ijcse.v2i1.306>.
- Firmansyah, Tri., Supriyanto, A., & Timan, A. (2018). Efektivitas Pemanfaatan Sarana dan Prasarana

- dalam Meningkatkan Mutu Layanan. *JMSP: Jurnal Manajemen Dan Supervisi Pendidikan*, 2(3), 179–184.
- Fisch-Romito, V., & Guivarch, C. (2019). Transportation infrastructures in a low carbon world: An evaluation of investment needs and their determinants. *Transportation Research Part D: Transport and Environment*, 72, 203–219.
- Fitriani, N. L. (2021). Manajemen Peningkatan Mutu Sarana dan Prasarana Pendidikan di Madrasah Tsanawiyah Wahid Hasyim Badegan Ponorogo. *Excelencia: Journal of Islamic Education & Management*, 1(01), 8–17.
- Graue, C. (2015). Qualitative Data analysis. *International Journal of Sales, Retailing & Marketing*, 4(9), 5–14.
- Guba, E. G., & Lincoln, Y. (1985). *Effective Evaluation*. San Francisco: JosseyBass Pub.
- Gusli, R. A., Iswantir, M., & Akhyar, M. (2023). Konsep Manajemen Sarana dan Prasarana Pendidikan Lembaga Islam Di Mts S Sungai Rambah Kabupaten Padang Pariaman. *Jurnal Bilqolam Pendidikan Islam*, 4(2), 61–78.
- Hadiyatunnisa, P., Tri Andini, A., Hermaliya, D., & Hairullah, H. (2023). Proses Administrasi Sarana dan Prasarana Pendidikan di SMP Negeri 2 Lubuk Pakam. *Al Ittihadu*, 2(1), 11–21.
- Hardiana, T., & Sholihah, I. (2024). Komite Madrasah dalam Pengelolaan Sarana dan Prasarana di Madrasah Ibtidaiyah Mabdaul Ulum Purwosari. *IHTIROM: Jurnal Manajemen Pendidikan Islam*, 3(1), 1–12.
- Harini, H., Zukhrufin, F. K., & Wahyusi, H. D. Q. (2024). Manajemen Sarana dan Prasarana dalam Meningkatkan Mutu Lembaga Pendidikan Islam. *JIE (Journal of Islamic Education)*, 9(1), 1–20.
- Hasnadi, H. (2022). Manajemen Sarana dan Prasarana Pendidikan. *Bidayah: Studi Ilmu- Ilmu Keislaman*, 12(2), 153–164. <https://doi.org/https://doi.org/10.47498/bidayah.v12i2.728>.
- Hermawan, D. (2020). *Diktat Manajemen Sarana dan Prasarana*. FTIK IAIN Jember.
- Ibem, E. O., & Laryea, S. (2014). Survey of digital technologies in procurement of construction projects. *Automation in Construction*, 46, 11–21.
- Khairi, N., Tsauri, S., & Fatmawati, E. (2023). Management of Educational Infrastructure Facilities at Madrasah Aliyah Negeri 1 Jember. *EDUTEC: Journal of Education And Technology*, 6(3), 888–897.
- Khoriyah, S. (2015). Manajemen Sarana Prasarana Pendidikan SDN 1 Pendowo Asri Dente Teladas Tulang Bawang. *Jurnal Manajemen Mutu Pendidikan*, 4(3), 33–41.
- Maila, M., Dalimunthe, M. T., Kismadani, N. D., Setiyani, R., Oktavianda, R., & Setiyadi, B. (2024). Penyaluran Sarana Prasarana Pendidikan. *Jurnal Ilmiah Universitas Batanghari Jambi*, 24(1), 466. <https://doi.org/10.33087/jiubj.v24i1.4819>.
- Matin, F. N., & Fuad, N. (2016). Manajemen Sarana dan Prasarana Pendidikan Konsep dan Aplikasinya. In *Jakarta: PT Raja Grafindo Persada*.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative data analysis: A methods sourcebook*. Sage publications.
- Mishadin. (2012). *The Effectiveness Of Computer-Based Learning Media In The Electronics Subject On*

The Students' Learning Achievement. Universitas Negeri Yogyakarta.

- Montalbán-Domingo, L., García-Segura, T., Sanz-Benlloch, A., Pellicer, E., Torres-Machi, C., & Molenaar, K. (2022). Assessing social performance of construction companies in public-works procurement: Data envelopment analysis based on the benefit of the doubt approach. *Environmental Impact Assessment Review*, 96, 106844.
- Mulyadi, T., Pranawukir, I., Sovianti, R., Fadil Mediwinata, A., Afif Alfiyanto, & Hidayati, F. (2022). Pelaksanaan Pemeliharaan Sarana dan Prasarana Pendidikan pada Madrasah Ibtidaiyah. *At-Ta'fikir*, 15(1), 98–117. <https://doi.org/10.32505/at.v15i1.4357>.
- Murni, M. (2018). Manajemen Sarana dan Prasarana Pendidikan. *Jurnal Mimbar Akademika*, 2(2), 40–57.
- Mustari, M. (2014). *Manajemen Pendidikan*. Raja Grafindo Persada.
- Nanda, L. A., & Annova, F. (2023). Pengadaan Sarana Dan Prasarana Di Sekolah Menengah Atas (SMA) Negeri 4 Kota Pariaman. *PRODU: Prokurasi Edukasi-Jurnal Manajemen Pendidikan Islam*, 5, 77–87.
- Nasution, M. D. (2021). Planning of Facilities and Infrastructure in Islamic Education. *Journal of Islamic Education El Madani*, 1(1).
- Ningsih, M. (2020). *Manajemen Penghapusan Sarana Pendidikan di Kantor Kementerian Agama Kota Palangka Raya*. IAIN Palangka Raya.
- Noven, T. T. A., & Inayati, N. L. (2024). Proses Manajemen Sarana dan Prasarana di Madrasah Aliyah Negeri. *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, 5(1), 73–83.
- Novita, M. (2017). Sarana Prasarana yang Baik menjadi bagian Ujung Tombak Keberhasilan Lembaga Pendidikan Islam. *Nur El-Islam*, 4(2), 97–129.
- Nurhikmahyanti, D. (2014). Peran Komite sekolah dalam pengadaan sarana dan prasarana di SD negeri Pucang IV Sidoarjo. *Jurnal Inspirasi Manajemen Pendidikan*, 4(4).
- Pahlevi, R., Imron, A., & Kusumaningrum, D. E. (2016). Manajemen Sarana dan Prasarana untuk Meningkatkan Mutu Pembelajaran. *Manajemen Pendidikan*, 25(1), 88–94.
- Prastiawan, H. (2016). Pengadaan Dan Pemeliharaan Sarana Dan Prasarana di SD Insan Mulya Kota Baru Driyorejo Gresik. *Jurnal Insprirasi Manajemen Pendidikan*, 1–7.
- Purnomo, A. C. (2022). Manajemen Pemeliharaan Sarana Prasarana Pendidikan. *SOKO GURU: Jurnal Ilmu Pendidikan*, 2(1), 66–75.
- Putri, S. A., Sakban, Fitri, D. Y. A., Sari, R. R., Julita, F. F., & Alvi, M. (2023). Administrasi Sarana Dan Prasarana Pendidikan. *Jurnal Bisnis Dan Manajemen (JURBISMAN)*, 1(2), 561–576.
- Rohiat. (2012). Manajemen Sekolah: Teori Dasar dan Praktik. In *Bandung: PT Refika Aditama*.
- Rusydi, A., & Banurea, K. O. (2017). Manajemen Sarana dan Prasarana Pendidikan. In *Widya Puspita*.
- Setiyadi, B., Ramadhan, B., Ulfa, M., Rosdiati, R., & Hersalinda, T. (2024). Penghapusan Sarana Prasarana Pendidikan. *Jurnal Ilmiah Dikdaya*, 14(1), 162–169. <https://doi.org/10.33087/dikdaya.v14i1.618>.
- Siagian, H. B., Darmansah, T., Fadhilah, F., Hasibuan, N. A., & Safitri, R. R. (2024). Pengelolaan Sarana

- dan Prasarana di Sekolah Madrasah Aliyah Laboratorium UINSU. *Jurnal Manajemen Dan Pendidikan Agama Islam*, 2(4), 350–359.
- Siswanto, E., & Hidayati, D. (2020). Management indicators of good infrastructure facilities to improve school quality. *International Journal of Educational Management and Innovation*, 1(1), 69–81.
- Stufflebeam, D. L., & Shinkfield, A. J. (2012). *Systematic evaluation: A self-instructional guide to theory and practice* (Vol. 8). Springer Science & Business Media.
- Sunandar, A. (2013). *Efektivitas KEberadaan Komite Sekolah untuk Peningkatan Mutu Layanan Sekolah*. Universitas Negeri Malang.
- Tajuddin, M., & Natalia, L. (2023). Pemeliharaan Sarana dan Prasarana Pendidikan di SMKN 4 Bone. *Jurnal Mempesona*, 6(1), 1–11.
- Torismayanti, T., Zohriah, A., & Muin, A. (2023). Implementasi Manajemen Sarana dan Prasarana Dalam Meningkatkan Mutu Pendidikan di MTs Negeri 1 Lebak. *Journal on Education*, 6(1), 7200–7213.
- Toro, J., Requena, I., Duarte, O., & Zamorano, M. A. (2013). Qualitative method proposal to improve environmental impact assessment. *Environmental Impact Assessment Review*, 43(6), 9–20.
- Ulfah, S. M., Maryani, N., & Indra, S. (2024). Optimalisasi Pengelolaan Barang di Pesantren Tahfizh Al Quran dan Bahasa Arab Bina Madani Putri Bogor Inventory Of Tools And Infrastructure In An Effort To Optimize The Management Of Goods In Pesantren Tahfidz Qur ' An And Arabic Bina Madani Princess. *Jurnal Sosial Humaniora*, 2(3).
- Wahyan, Etek, Y., Rosidin, U., Dermawan, O., & Koderi. (2021). Infrastructures Ans Facilities Management in the Madrasah Aliyah Pesawaran, Lampung Province, Indonesia. *International Journal of Advanced Research*, 9(06), 673–680. <https://doi.org/10.21474/ijar01/13062>.
- Wijono, H. A., & Riyadi, A. A. (2023). Implementasi Manajemen Sarana Prasarana Di MTs Salafiyah Syafi'iyah Seblak Jombang. *At Tadbir: Islamic Education Management Journal*, 1(1), 52–62.
- Xia, B., Olanipekun, A., Chen, Q., Xie, L., & Liu, Y. (2018). Conceptualising the state of the art of corporate social responsibility (CSR) in the construction industry and its nexus to sustainable development. *Journal of Cleaner Production*, 195, 340–353.
- Zurqoni, Z., Retnawati, H., Apino, E., & Anazifa, R. D. (2019). Impact of Character Education Implementation: a Goal-Free Evaluation. *Problems of Education in the 21st Century*, 76(6), 881–899. <https://doi.org/10.33225/pec/18.76.881>.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).