


## Inventory of Educational Facilities and Infrastructure

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### Abstract

This research uses a descriptive qualitative approach to describe educational facilities and infrastructure inventory. Facilities and infrastructure are all the resources and tools a school or educational institution owns to support school activities or assist the teaching and learning process. This is very important to achieve school educational goals. Therefore, these facilities and infrastructure must be maintained to help achieve academic goals. "inventory" refers to activities related to inventory items, such as their management, organization, recording, and registration. The method for maintaining the quality and quantity of facilities and infrastructure is Inventory. Therefore, its implementation will be critical. Therefore, understanding how to do it correctly and regularly is very important.

**Keywords:** inventory; educational facilities; educational infrastructure

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### Introduction

Education is vital in forming an intelligent and productive society (Darling-Hammond, 2001; Darling-Hammond et al., 2020; Haleem et al., 2022). Educational facilities and infrastructure are critical components in the educational process, as they provide an appropriate and conducive environment for learning (Barrett et al., 2019; Mash & Edwards, 2020; Yangambi, 2023; Villarreal Arroyo et al., 2023). Inventory of educational facilities and infrastructure is a critical process in ensuring that these resources are available and can be used effectively in Education (Ahmad, 2021; Nurmayuli, 2022; Suranto et al., 2022; Assumpta Wikantari et al., 2022; Mulyadi et al., 2022). In different countries, education systems are in various stages of development. Some countries have succeeded in building adequate educational infrastructure, while others still face significant challenges in providing sufficient facilities and infrastructure for education. Therefore, conducting an inventory of educational facilities and infrastructure periodically is essential to understand the current status and expansion of future needs.

The background to choosing the Inventory of educational infrastructure title is based on an understanding of the importance of facilities and infrastructure in the context of education in schools. To keep these facilities and infrastructure functioning properly, steps such as conducting an inventory are needed. Effective management of educational facilities and infrastructure enables schools to manage their assets in a planned and targeted manner.

One of the supporting factors in the success of the learning process at school is through facilities and infrastructure (Nurbaiti, 2015; Hazimah et al., 2022). This success can be achieved optimally if supported by good facilities, infrastructure, and optimal management. The management of existing facilities and infrastructure owned by a school certainly needs to be considered because recording activities involve all equipment owned by the school (Larasati et al., 2013). These recording activities are usually included in an inventory list in an orderly manner by applicable rules and regulations to facilitate the search for inventory items (Basariyatul khusnah & Purwanto, 2020).

In this view, this background will explain the importance of an inventory of educational facilities and infrastructure as an essential management tool and a significant contributor to achieving sustainable academic development goals. In addition, this background will also outline the benefits of Inventory, the challenges that may be faced in its implementation, and its relevance in the development of an increasingly dynamic world of education. A better understanding of the Inventory of educational facilities and infrastructure is expected to help improve the quality of education and support sustainable development worldwide.

## Methods

The approach used is a descriptive qualitative approach. Bogdan and Taylor in Wiyono argue that qualitative research is research whose results are descriptive words orally and in writing from observable sources. The illustrative method is research that aims to describe something related to phenomena as they exist and occur during the research process (Wiyono, 2007). The data collection technique uses observation techniques, one of the data collection instruments carried out by the team, to determine the development system that suits the school's needs.

## Results and Discussion

### Definition of Inventory

According to the Big Indonesian Dictionary, there are two definitions of Inventory: Inventory is the recording or registration of items belonging to offices, schools, households, and so on used in carrying out tasks, and Inventory can be interpreted as recording or collecting data about activities, results achieved, public opinion, newspapers, culture and so on. According to Minarti, Inventory comes from the word "inventarium," which means a list of items, materials, and so on (Minarti, 2011a). According to Bafadal, Inventory is the recording of all state property, and Inventory is the recording of all educational equipment owned by schools in a systematic, orderly manner based on applicable provisions or guidelines (Bafadal, 2008).

Inventory is the activity of recording and compiling goods owned by a company, household, or school. Applicable standard operating procedures shall carry out such recording and preparation. The government issued regulations regarding this recording activity. First, the instructor of President No. 3 of 1971 on goods or wealth belonging to the state. Second, the instruction of the Minister of Education and Culture No 10/M/1976 concerning the quarterly report on the mutation of state property and procedures for its implementation. There are several criteria for goods that must be noted. The first is purchased based on the Regional Revenue and Expenditure Budget / APBD and the State Budget (APBN), and the second is non-consumable goods. Inventory is carried out at least once a year, periodically, and needs to pay attention to the reduction or addition of goods. This is done so agencies have accurate data to consider the budget amount.

Inventory must be carried out when new items are coming in, and goods are going out, for example, because they are damaged. This must be done carefully, known by the finance department, and approved by the leadership. Inventory is the recording and preparation of a list of state properties systematically and orderly based on the provisions of applicable guidelines (Daryanto & Farid, 2013). Through this Inventory, education is expected to create order and financial savings and facilitate maintenance and supervision. Inventory is an activity to record and compile existing facilities and infrastructure in an orderly and complete manner based on applicable regulations (Barnawi & Arifin, 2012). Through Inventory, it will be easy to know the quantity, type of coal, quality, year of manufacture, brand/size, and price of goods in the school.

Suryosubroto explained that recording educational facilities is an administrative activity, so it is necessary to provide administrative instruments, including a) an Inventory book, b) a Purchase book, c) Book deletion, and d) an Item card (Suryosubroto, 2010). Ibrahim Bafadal explained that inventory activities include the following actions: activities related to recording and coding equipment items, as well as activities related to report making (Bafadal, 2003). The

Directorate of Education Personnel of the Ministry of National Education said that in the Inventory, inventory items are classified or coded. The purpose of organizing these items is so that there is a relatively easy and efficient way to record and, at the same time, to search and find specific items, both physically and through a list of records or in people's memories. In addition, there are also two types of inventory reporting, namely the quarterly report on the mutation of goods and the annual inventory report. Each school must maintain an inventory of state property controlled/managed by their respective schools in an orderly and complete manner. The headmaster conducts and is responsible for implementing the physical Inventory and filling the inventory list of state property in his school.

Based on various definitions and explanations presented by multiple sources, it can be concluded that Inventory is the activity of recording, collecting data, and compiling lists of state, company, household, or school property systematically and orderly. This Inventory aims to create order financial savings to facilitate maintenance, supervision, and management of goods owned. In education, Inventory is an essential administrative instrument for managing school facilities and infrastructure, including monitoring the purchase, elimination, and maintenance of goods. In addition, the classification or coding of goods is also an essential part of the Inventory to facilitate recording and retrieval of certain items. The Inventory must be carried out periodically and by applicable guidelines and involves the principal's responsibility in carrying it out.

### **Inventory of Educational Facilities and Infrastructure**

Inventory is the activity of education, organizing, organizing, recording, and registering Inventory or property items. The presence of Inventory makes it possible to see the quantity, type, quality, year of manufacture, price size, and others. An organization can more effectively manage its goods with an Inventory (Dermawan, 2020). According to Sri Minarti, the word "inventory" comes from the Latin word "inventarium", which means a list of goods, materials, and so on (Minarti, 2011b).

Inventory of educational facilities is the process of recording or registering assets owned by educational institutions, such as schools, into the inventory list of goods in a structured and orderly manner by applicable regulations and procedures (Martin & Fuad, 2016). M. Arifin and Barnawi explained that the recording or registration of goods for administrative purposes is known as Inventory. To conduct this Inventory, administrative instruments such as goods receipt books, goods purchase books, inventory master books, inventory class books, non-inventory books, and stock books must be provided (Barnawi & Arifin, 2012).

E. Mulyasa explained that educational facilities are equipment that are directly used and support the educational process, especially the learning process. Academic facilities include buildings, tables, chairs, classroom tools, biology gardens, schoolyards and sports fields, and learning equipment and equipment. However, educational infrastructure also has facilities that help students indirectly, such as gardens, parks, and roads leading to school (Mulyasa, 2012).

Mujamil Qomar explained that facilities such as school yards, parks, and roads to schools are examples of facilities that indirectly help the learning process (Prasarana) (Qomar, 2002). Every educational facility and infrastructure needs to be managed optimally from the beginning of its procurement. The management process that is generally used is the Inventory of educational facilities and infrastructure. This inventory activity covers two main aspects: recording and providing a code of goods and activities associated with preparing reports (Burhanuddin, 2003). So, it can be concluded the Inventory of educational facilities and infrastructure is the process of registering goods owned by organizations or schools into an orderly inventory list according to applicable regulations and procedures.

### **Purpose of Inventory of Facilities and Infrastructure**

In a universal context, an Inventory is carried out to increase the efficiency and effectiveness of managing facilities and infrastructure owned by a school. As explained by Martin, this Inventory has several objectives that can be paraphrased, namely a) The first objective is to

maintain and create order in the management of school facilities and infrastructure; b) The second objective is to provide cost or financial savings to the school, both in the process of purchasing, maintaining, and moving school facilities and infrastructure; c) The third objective is to be a guide in measuring the substance value of a school in material form that can be assessed with money (Martin, 2017).

Inventory is an effort to improve the effectiveness of management and supervision of facilities and infrastructure owned by a school. Specifically, the purpose of the Inventory is a) To maintain and create order in the administration of facilities and infrastructure owned by the school; b) For school financial efficiency, both in procurement, maintenance, and elimination of facilities and infrastructure; c) As a guide in assessing the value of a school's wealth in the form of physical assets that can be assessed with money; d) To facilitate the process of supervision and control of facilities and infrastructure owned by schools (Huda, 2020).

In general, the purpose of the Inventory of educational facilities and infrastructure in schools is to improve the effective management and supervision of facilities owned by schools, with the aim of improvement (Indrawan, 2015). Inventory is carried out as part of efforts to improve effective management and supervision of facilities and infrastructure owned by a school (Minarti, 2011b).

It can be concluded the Inventory of facilities and infrastructure in schools has a universal purpose, which generally aims to improve the efficiency and effectiveness of school facility management. These goals include maintaining order in administration, saving school costs in procurement and maintenance, and providing guidance in assessing the value of physical school assets. In addition, the Inventory also aims to facilitate supervision and control of school facilities. Thus, the Inventory of educational facilities and infrastructure in schools is an essential step in improving the effective management and maintenance of school facilities with the aim of improvement.

### **Benefits of Facilities and Infrastructure Inventory**

In a complete, organized, and consistent organization, making inventory lists can be beneficial for several reasons, namely a) Identify and plan the needs of goods through the provision of data and information; b) Provision of data and information to be used as a guide and source in the procurement briefing process; c) Provide data and information to be used as resources or directions in the process of distribution of goods; d) provide information and data to determine the condition of the goods for removal; e) Provide information and data to facilitate the supervision and control of goods (Martin, 2017).

Benefits of Inventory of Educational Facilities and Infrastructure, namely: a) Provide data and information needed to identify needs and plan the needs of goods; b) Provide data and information as a guide in the process of distributing goods; c) Provide data and information used to evaluate the condition of the goods, including the extent of damage, age, or excess condition, which is the basis for determining whether the item needs to be removed; d) Provide data and information used as guidelines in directing the procurement process; e) Provide data and information that facilitate the task of supervision and control of goods (Kurniawati, 2013).

The advantages or benefits of the inventory index of goods arranged in an intact, organized, and sustainable organization, as mentioned by (Arikunto, 2008)), can be summarized again, namely a) Provide information and data needed to identify needs and plan asset needs; b) Provide information and data that can be used as guidelines in the process of purchasing goods; c) Provide information and data that can be used as a guide in the delivery of goods; d) Provide information and data that facilitate the task of supervision and control of goods.

From several opinions, the author concludes that making an inventory list of goods in an organization that is organized and consistent provides several significant benefits. Firstly, it helps identify and plan the needs of goods by providing accurate data and information. Second, the inventory list becomes a precious guide in the procurement process and a source of information

for the distribution of goods. Third, the information in the inventory list is used to evaluate the condition of the goods, including the extent of damage, age, or other conditions, which is the basis for determining whether the item needs to be removed. Fourth, the inventory list becomes a guideline in directing the procurement process. Finally, it also simplifies the organization's supervision and control of goods. Therefore, a well-organized inventory index in an organization has significant advantages in asset and resource management.

### **Inventory Governance of Educational Facilities and Infrastructure**

Inventory management is an integral part of educational equipment management in schools, which involves recording all equipment owned by schools and preparing lists of State property in a structured, disciplined, and orderly manner according to applicable regulations and guidelines. However, it is essential to remember that a structured and orderly Inventory of educational supplies is not only carried out in response to legal requirements. More than that, the goal is to explore the added value contained in the inventory process of educational equipment. Conducting a good inventory of educational equipment is expected to create order in the administration of goods, save financial resources, and facilitate maintenance and supervision (Bafadal, 2003).

The steps that must be followed in conducting an inventory are recording facilities and infrastructure in the form of an inventory list and submitting the report to the relevant parties. Several books and cards are used to record inventory items, including the main inventory notebook, inventory item classification book, non-inventory item record, inventory item change list, and inventory card ( Martin & Fuad, 2016).

For the inspection of tools and materials to be inventoried to be more efficient, it is necessary to conduct an inventory with a structured method. This Inventory can be archived in notebook form or recorded electronically as a master list. Information that is generally required in the inventory process involves a) Identification code of tools/materials; b) Full name of the tool/material; c) Technical details of tools/materials (including brand, type, and manufacturer); d) Source of origin of tools/materials and year of purchase; e) Date of commencement of use; f) Available quantity or volume; g) The condition of the tool/material, whether it is in good condition or damaged (Daryanto, 2018).

Ary H. Gunawan identifies actions that must be taken routinely in the implementation of the Inventory, which include a) Recording all inventory items in the "Inventory Master Book" and supporting books in the "Inventory Group Book"; b) Provide identification codes on items under Inventory; c) Prepare quarterly reports that record changes in inventory items; d) Create an inventory format or checklist; e) Compile a summary or annual recapitulation of inventory results (Ary H. Gunawan, 2011). In the process of Inventory of educational facilities and infrastructure in schools, the tasks that must be carried out by the manager of educational facilities and infrastructure include: a) Records of school facilities and infrastructure can be recorded in various books, such as goods receipt books, non-inventory item books, or stock cards; b) Generation of specific codes for equipment that falls into the category of inventory items; c) The importance of reporting all educational supplies in schools included in inventory items (Indrawan, 2015). Several principles need to be considered in managing school facilities and infrastructure to achieve the goals optimally. Some of these principles include a) Principles of Goal Achievement, b) Principles of Efficiency, c) Administrative Principles, d) The Principle of Certainty of Responsibility, and e) The Principle of Cohesiveness (Nurabadi, 2014).

### **Implementation and Inventory Activities of Educational Facilities and Infrastructure**

In the implementation of the Inventory of educational facilities and infrastructure, activities that must include a) Record all inventory items in the "Inventory Master Book" and also in a subsidiary book called the "Inventory Group Book." b) Provide identification codes on items under Inventory; c) Prepare quarterly reports that record changes or mutations in inventory items;

d) Create an inventory format or table of contents that is used as a guideline in recording inventory data; e) Compile an annual recapitulation list that summarizes the entire Inventory of goods for one year (Ary H. Gunawan, 2011). By carrying out these activities, the inventory process of educational facilities and infrastructure can be structured and efficient.

In the implementation of the Inventory of educational facilities and infrastructure in schools, according to Bafadal, the steps that need to be taken include: a) Record school facilities and infrastructure in several books, which include goods receipt books, non-inventory books, and stock books; b) Create special codes for equipment that are considered Inventory. This code can be numeric or numeric, reflecting the department, location, and type of goods, aiming to facilitate the identification and management of the goods; c) Conduct periodic reporting of all inventory items, often referred to as item mutation reports. This reporting is done over time, usually in one quarter, such as July, October, January, and April in a school year; d) Supervise and maintain educational facilities and infrastructure in schools. Supervision is the management's responsibility in maintaining the condition and empowerment of educational facilities and school infrastructure (Nurabadi, 2014).

The author can understand that several necessary steps must be followed in implementing the Inventory of educational facilities and infrastructure. First, it includes activities such as recording all inventory items, providing identification codes, compiling quarterly reports, making inventory formats or checklists, and compiling annual recapitulation lists. This all aims to ensure the inventory process runs structured and efficiently. Second, the steps that need to be taken include recording facilities and infrastructure in various books, creating special codes for inventory items, reporting periodic mutations of goods, and supervising and maintaining educational facilities and infrastructure in schools. By following these steps, schools can manage Inventory well, facilitate the identification of goods, and keep the condition and empowerment of educational facilities to support the learning process.

The explanation of the inventory management of educational facilities and infrastructure in schools, namely a) Recording; b) Inventory management (Minarti, 2011b); c) Classification of Inventory Items (Martin & Fuad, 2016); d) Codification of Goods; e) Inventory Reporting of Educational Facilities and Infrastructure; f) Elimination of inventory list (Nurabadi, 2014). Furthermore, it should be mentioned that elimination, as one aspect of the management of educational facilities, has several objectives, namely: a) Avoid or limit more significant losses due to the expenditure of funds to repair or maintain damaged facilities; b) Prevent waste of costs to secure equipment that is no longer useful; c) Exempt the institution from the responsibility of maintaining and securing the written off goods; d) Reduce the burden in the inventory process. The principal has the authority to carry out the abolition.

However, it must meet some removal requirements before such means are abolished. According to Ibrahim Bafadal, the conditions for the removal of facilities in schools are a) The facilities are in a state of severe damage so that they can no longer be utilized; b) Facilities are not by current needs; c) The means are outdated and no longer fit for their use; d) The means are subject to restrictions on their use; e) The facility experiences depreciation beyond the control of the goods manager; f) The cost of maintaining the facility is not proportional to the benefits; g) Means are redundant and no longer used; h) The means of being a victim of theft; h) Means are misused or misappropriated; i) Facilities are damaged or destroyed due to natural disasters.

In managing the Inventory of educational facilities and infrastructure in schools, necessary steps include detailed recording in various books, classification of inventory items, use of identification codes, and regular reporting. Accurate and systematic recording ensures that all goods are well-recorded and easily identifiable. In addition, eliminating inventory items that are no longer needed is also an important step to avoid wasting funds and reduce inventory burden. The removal conditions described by Ibrahim Bafadal provide guidelines for making the right decisions in removing inventory items that are no longer relevant or useful. Thus, managing the Inventory of

educational facilities and infrastructure in schools must be carried out carefully and by applicable regulations to ensure efficiency and effectiveness in using academic resources.

### **Inhibiting and supporting Factors of Inventory of Educational Facilities and Infrastructure**

#### **1. Inhibiting Factors for the Implementation of Inventory Activities of Educational Facilities and Infrastructure**

Sukardi Ismail has stated that several factors can hinder the implementation of the Inventory of state property, namely: a) The quality and amount of human resources involved in the inventory activities; b) Budget limitations allocated for such activities; c) Unclarity in the sanction system, which results in improper control and supervision. In the description above, factors that can hinder the Inventory of goods include lack of optimal understanding of the recording of goods by human resources, limited funds for procurement, and deficiencies in the sanctions system for the management of goods.

#### **2. Factors Supporting the Implementation of Inventory of Educational Facilities and Infrastructure**

Factors that support the implementation of inventory activities of educational facilities and infrastructure namely a) Effective supervision of the Inventory of educational facilities and infrastructure in schools is an action taken by the leadership to assist school staff in maintaining, maintaining, and utilizing inventory items as well as possible so that the learning process runs smoothly; b) The implementation of a computer-based management system can be improved to support inventory management better. This will facilitate fast, accurate, and accountable reporting to the leadership.

By implementing a computerized system optimally, we can collect precise information about Inventory in schools and provide efficient supervision by inventory management staff so that inventory activities can be carried out according to applicable regulations. It can be concluded that factors that can hinder the implementation of inventory activities of educational facilities and infrastructure, as conveyed by Sukardi Ismail, include a lack of optimal understanding of the recording of goods by human resources, limited budget for procurement of goods, and shortcomings in the sanctions system for the management of goods. On the other hand, to support the implementation of Inventory, school leaders need adequate supervision to maintain, maintain, and utilize inventory items properly. In addition, the performance of an optimal computer-based management system can also facilitate fast, accurate, and accountable reporting to the leadership so that applicable regulations can run inventory activities.

### **Conclusion**

In order to efficiently manage and supervise items owned by an organization or school, inventory becomes an important process that includes systematic recording, coding, and reporting. The main purpose of inventory is to create order, save costs, facilitate maintenance, as well as effective supervision of such items. In the context of education, the inventory of educational facilities and infrastructure in schools has similar objectives, including maintaining school administration regularity, optimizing expenditures in the procurement and maintenance of facilities, and providing guidance in assessing the value of school physical assets. Recording accurately, classifying inventory items, and providing identification codes are important steps in managing the inventory of facilities and infrastructure. In addition, the elimination of inventory items that are no longer needed is integral in ensuring efficient use of resources. By complying with applicable guidelines and elimination requirements, the management of inventory of educational facilities and infrastructure in schools will support efficiency and effectiveness in the overall use of educational resources.

Based on the discussion in the previous chapter, inventory development consists of a master book and Room Inventory Card, which provides complete facilities and infrastructure to schools and provides a better understanding to principals and administrative personnel about the

process of making inventory codes. In addition, inventory development consists of codes affixed to available items, and the school responds well to inventory development.

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