

# PROJECT MANAGEMENT ANALYSIS OF COMMUNITY BASED SANITATION ACTIVITIES IN LANGKAT REGENCY

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Received : 01 July 2025

Published : 19 August 2025

Revised : 14 July 2025

DOI : <https://doi.org/10.54443/ijerlas.v5i4.3877>

Accepted : 28 July 2025

Publish link : <https://radjapublika.com/index.php/IJERLAS>

## Abstract

This study analyzes project management practices and proposes strategic recommendations to minimize time addendums in the implementation of the Community-Based Sanitation (Sanimas) activities in Langkat Regency. Sanimas, initiated by the Ministry of Public Works and Housing, aims to expand access to proper sanitation through community participation. Despite its achievements, the program has faced execution challenges, particularly related to time constraints under the self-managed construction model. The research employs the Critical Path Method (CPM) to identify key activities affecting project duration. Findings indicate that delays in procurement and construction stages significantly contributed to the extension of project timelines beyond the stipulated 90 days. The total project duration based on the CPM analysis was found to be 47 days for critical path activities. This study recommends strengthening the capacity of Community-Based Implementation Team, enhancing coordination with stakeholders, integrating risk-based scheduling, and institutionalizing post-project evaluations. These strategic improvements are essential for ensuring timely and efficient implementation of future Sanimas projects.

**Keywords:** *Sanimas, Project Management, Critical Path Method*

## 1. INTRODUCTION

The United Nations (UN) established the 2030 Agenda in 2015, known as the Sustainable Development Goals (SDGs). The SDGs represent a global development agenda aimed at enhancing sustainable economic well-being, preserving the sustainability of social life while taking into account environmental protection, promoting inclusive development, and ensuring governance that supports the improvement of quality of life across generations. The government strives to achieve the third pillar and the sixth goal of the SDGs, namely ensuring the availability and sustainable management of clean water and sanitation for all (Natalia, A., & Maulidya, E. N., 2023).

The government prioritizes the fulfillment of access to proper sanitation through various initiatives. In this regard, the Ministry of Public Works and Housing (PUPR) supports the achievement of sanitation access targets in the 2020–2024 National Medium-Term Development Plan, which mandates 90% access to proper sanitation, including 15% access to safely managed sanitation services and 0% open defecation. The Ministry of Public Works and Housing, through the Directorate of Sanitation, implements the Sanimas program. Sanimas is one of the Community-Based Infrastructure initiatives carried out through a participatory approach, aiming to increase community access to proper and sustainable sanitation. Langkat Regency is one of the areas in North Sumatra that receives assistance under the Sanimas program. The implementation of Sanimas follows a self-managed (swakelola) system. This system is expected to generate local economic impacts by engaging local community labor in the construction process. The program is implemented by the Community-Based Implementation Team (KMP), which represents the users and beneficiaries. Therefore, the success of the Sanimas program largely depends on the active participation of the community at each stage from community preparation and planning to construction, maintenance, and utilization.

However, in practice, the self-managed implementation system faces several challenges. First, the head of the KMP must possess strong managerial skills to involve the right community members effectively. The leader must be able to identify who should be involved, when, where, and how many individuals are needed for the implementation of Sanimas. These factors significantly influence the project timeline, especially considering that construction must be completed within 90 days. In 2024, an addendum to the construction timeline was issued, extending the duration from the initial 90 days to 123 days. Based on the above explanation, this study aims to formulate strategies to minimize the occurrence of such addenda in the implementation of the Sanimas program.

## 2. LITERATURE REVIEW

### 2.1 Sanimas

Community Based Sanitation (Sanimas) is one of the community based infrastructure provision programs implemented by the Ministry of Public Works and Housing (PUPR). The primary objective of this program is to develop sanitation facilities and infrastructure that contribute to improving public health, reducing waterborne disease transmission, supporting the reduction of stunting rates, and increasing access to proper sanitation. Additionally, the program aims to create temporary employment opportunities that provide supplemental income for residents living near the project sites.

### 2.2 Project Management

According to the Project Management Institute (2017), project management is the application of knowledge, skills, tools, and techniques to project activities in order to meet project requirements. Each project possesses unique characteristics and is temporary in nature, meaning it has a defined beginning and end, and results in a unique product, service, or outcome. Fazis and Tugiah (2022), in their journal article, emphasize that a project is a series of activities carried out within a specific timeframe, with limited resource allocation, and aimed at producing outputs in accordance with predetermined targets. Therefore, project management is essential to ensure the achievement of these targets through the stages of planning, execution, control, and evaluation. Project management comprises five essential phases: **Initiation**, which involves establishing the project scope and aligning stakeholders; **Planning**, which includes creating detailed schedules, budgets, and conducting risk assessments; **Execution**, which focuses on implementing the project tasks; **Monitoring and Controlling**, which entails tracking project performance and applying corrective actions as necessary; and finally, **Closing**, which involves the formal handover of deliverables and documentation.

### 2.3 Critical Path Method

The Critical Path Method (CPM) is a network analysis technique that aims to optimize the total project cost by reducing the overall project completion time. The use of the CPM method can help save time in completing various stages of a project. This method is widely applied in industrial sectors and construction projects. It is particularly effective when the duration of each task is known and does not fluctuate significantly.

## 3. RESULTS AND DISCUSSION

The implementation of project management processes in the Sanimas activities in Langkat Regency was carried out through five stages. During the **initiating** stage, community meetings and the formation of the Community Implementation Groups (KMP) showed good levels of involvement. In the **planning** stage, the drafting of the Community Work Plans (RKM) was generally in accordance with the established guidelines. However, in the **executing** stage, the construction phase faced several issues, primarily due to tight time constraints and limited availability of labor. The **monitoring and controlling** process, although carried out by facilitators and the KMP, was found to be more reactive than preventive in nature. Finally, in the **closing** stage, while the infrastructure was successfully completed and handed over, some facilities still exhibited minor defects. Using CPM, the critical path of the Sanimas construction activities was identified as **A-B-D-E-G**, with a total project duration of **47 days**. This means that these specific activities had zero float time and any delays in them directly affected the overall timeline. Delays in procurement (Activity B) and construction tasks (Activities D and E) were key contributors to the addendums or time extensions observed in the project. This analysis highlights the need for a more detailed schedule breakdown and risk assessment at the planning stage. Activities outside the critical path had some flexibility but were not adequately leveraged to ease pressure on the core timeline. Based on the analysis, several strategic recommendations were proposed to improve the implementation of Sanimas.

activities. First, strengthening the capacity of Community-Based Implementation Team (KMP) is essential. This can be achieved through targeted training in basic project management, scheduling, risk assessment, and procurement procedures, enabling them to manage resources and timelines more effectively. Second, coordination mechanisms need to be improved by institutionalizing regular meetings between KMP, facilitators, and local government. Establishing centralized communication platforms such as messaging groups or routine virtual check-ins can foster better understanding and quicker problem resolution. Additionally, integrating risk-based scheduling into the planning phase is critical. This involves including buffer times in the Community Work Plan (RKM) and identifying potential bottlenecks early to ensure more realistic project timelines. The Critical Path Method (CPM) should not only serve as an evaluative tool but also guide proactive scheduling decisions. Finally, a formal post-project evaluation process involving community stakeholders, technical teams, and local authorities is recommended to identify lessons learned, reinforce best practices, and reduce the likelihood of repeated mistakes in future project cycles.

## 4. CONCLUSION

Sanimas activities in Langkat Regency demonstrate that, although the stages of project management were implemented, execution challenges resulted in time inefficiencies. The Critical Path Method (CPM) analysis confirms that tight scheduling is a critical issue. To improve future outcomes, it is recommended to strengthen the capacity of the Community Based Implementation Team (KMP), enhance stakeholder coordination, and adopt risk-based project planning.

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