

BARRIERS, STRATEGIES, AND MAINTENANCE PRACTICES OF ROAD WORKERS IN MAINTAINING THE PROVINCIAL ROADS OF CATANDUANES

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ABSTRACT

This study assessed the barriers, strategies, and maintenance practices of road workers in maintaining the provincial roads of Catanduanes. Employing a descriptive-correlational research design, the study aimed to identify the key challenges faced by road workers, examine the strategies employed to address these challenges, and determine how these factors relate to the perceived effectiveness of road maintenance practices. The descriptive component highlighted the major barriers and strategies implemented, while the correlational aspect examined their relationships with perceived maintenance effectiveness, informing the development of a strategic intervention plan for more sustainable road management. Findings revealed that road workers in Catanduanes encountered several significant barriers in maintaining provincial roads, with an overall weighted mean of 3.56, rated as very challenging. Key barriers included lack of equipment and materials (mean = 3.51), inadequate funding (mean = 3.60), unfavorable weather conditions (mean = 3.55), and manpower shortage (mean = 3.58). These challenges were compounded by issues such as outdated machinery, absence of spare parts, weather-related road damage, and declining interest among younger personnel in road maintenance work. To address these barriers, road workers implemented a range of strategies. Prioritization of critical areas, particularly severely damaged and high-traffic roads, received the highest mean of 3.66, while preventive maintenance planning achieved the highest indicator mean of 4.00, emphasizing scheduled inspections and predictive maintenance. Community involvement (mean = 3.41) and resource optimization (mean = 3.55) were also employed to maximize manpower, equipment, and budgetary resources efficiently. Regarding the perceived effectiveness of maintenance practices, respondents reported high effectiveness in regular grading and patching (mean = 3.54), drainage system maintenance (mean = 3.54), vegetation control (mean = 3.56), and signage installation and repair (mean = 3.55). Correlational analysis indicated a significant relationship between the barriers encountered and the perceived effectiveness of maintenance practices ($r = 4.922 > 0.444$, $p < 0.05$), as well as between strategies implemented and perceived effectiveness ($r = 0.667 > 0.444$, $p < 0.05$). Based on these findings, a strategic intervention plan was proposed, focusing on capacity building, community engagement, institutional partnerships, and climate-resilient practices to enhance the sustainability, efficiency, and overall effectiveness of road maintenance operations in Catanduanes.

Keywords: Road maintenance, barriers, strategies, effectiveness, Catanduanes