

The 3rd International Conference on Sustainable Future for Human Security
SUSTAIN 2012

Utilizing mid-long term maintenance management policy for sustainable maintenance of Infrastructure Facilities

Suharman Hamzah^{a,*}, Kiyoshi Kobayashi^b

^aCivil Engineering Department Hasanuddin University, Tamalanrea Campus, Makassar 90-245, Indonesia

^bUrban Management Department Kyoto University, Katsura Campus, Kyoto 615-8530, Japan

Abstract

Infrastructure has a significant function in supporting citizen's life and serving economic activities. Look carefully on that situation; maintenance, repair and rehabilitation have been surely advanced up to now. In this context, it is substantial to perform an approach that decreases life-cycle cost by reasonably allocating of limited resource and by implementing an efficient management of infrastructure maintenance, repair and rehabilitation.

This paper proposes a methodology of maintenance management with strategy and policy approach. The maintenance management policy is developed from viewpoint of mid-long term maintenance plan. This policy is working with building facilities maintenance. This study has made a contribution to the field of building maintenance by utilizing maintenance management policy. The maintenance policy approach can be extended to apply to various infrastructures as well.

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Selection and peer-review under responsibility of SUSTAIN conference's committee and supported by Kyoto University; (OPIR), (GCOE-ES), (GCOE-HSE), (CSEAS), (RISH), (GCOE-ARS) and (GSS) as co-hosts.

Keywords: Maintenance, management policy, mid-long term, building facilities

1. Introduction

Infrastructure has a significant function in supporting citizen's life and serving economic activities. Look carefully on that situation; maintenance, repair and rehabilitation have been surely advanced up to now while attempting harmonize among the uniqueness, the history and the future plan of the city or region. Infrastructure maintenance, repair and rehabilitation are undertaken to be an integrated part of city or region planning. As a result, in many countries, a large amount of budget has been allocated in maintenance of infrastructure facilities [1]. However, there are original challenges of economic condition

* Corresponding author. Tel.: +62-411-580505; fax: +62-411-580505.

E-mail address: suharmanhz@yahoo.com

such as slowly economic growths, severe financial situation, thus infrastructure maintenance, repair and rehabilitation cost is decreased [2]. Within this context, it is substantial to perform an approach that decreases life-cycle cost by reasonably allocating of limited resource and by implementing an efficient management of infrastructure maintenance, repair and rehabilitation. In brief, that is maintenance management policy.

Regarding the potential value of facilities asset, by making facilities long-lived and by applying an appropriate maintenance, reduction maintenance cost can be expected consequentially [3]. Therefore, in facilities maintenance works, first step of reform understands management situation of facilities objectively, grasps facilities inspection by operation automatic tools measuring facilities characteristics, carries out input of geographical information systems (GIS) and accumulates necessary data related to facilities inspection and maintenance history information [4].

A positive policy approach for implementing rational facilities maintenance will be promoted based on those accumulated data, especially a plan of maintenance management strategy regarding to facilities characteristic [5]. In addition, as a long term vision stated as a goal, optimal maintenance management to attempt the minimization of life-cycle cost, and levelling of maintenance cost by carrying out an appropriate maintenance policy and in order to facilities long-lived are promoted.

This paper proposes a new policy approach in maintenance management in deep and comprehensive for application in many kinds of infrastructure facilities. In this paper, we promote long-term maintenance management policy in the case of building facilities.

2. Mid-Long Term Maintenance Management Policy

Figure 1 display three terms of management flow: mid-long term maintenance, short term maintenance and single term maintenance [6].

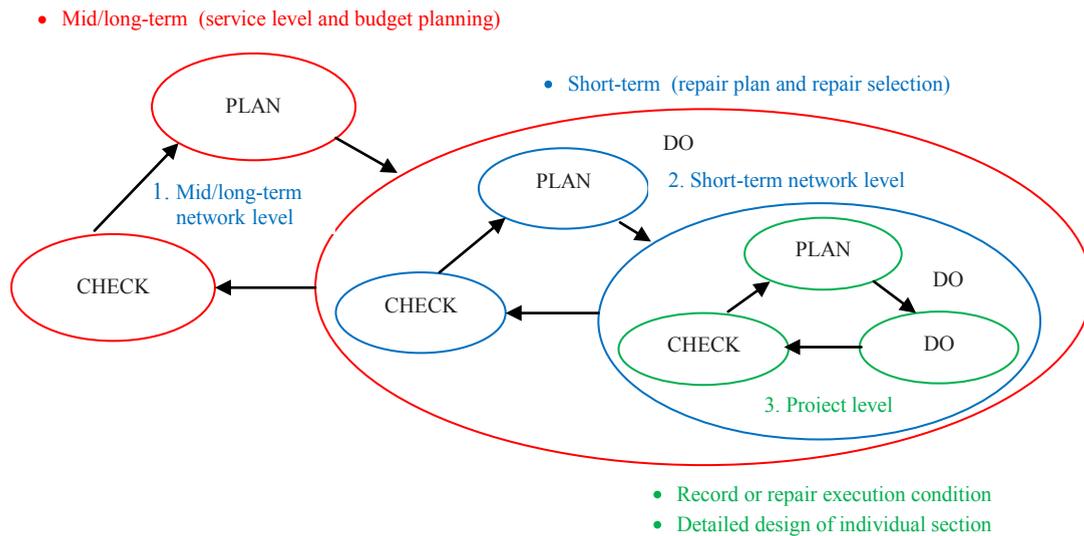


Fig. 1. Mid-Long term maintenance management policy

Each term of maintenance level has its own objectives and duties, as well as calls for comprehensive technology. The first term focuses on service level and budget planning of facilities. The short-term deals

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