

Development of technologies to renovate facilities to ensure the health and safety of evacuees at evacuation shelters

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1. Introduction

Methods to improve the living environment at evacuation shelters need to be developed to prevent mental and health damage and to ensure the safety of evacuees after a massive earthquake followed by a prolonged stay in evacuation shelters. When evacuation shelters are established, individual situations, such as regional characteristics, need to be taken into consideration. Yet, current evacuation shelter guidelines do not necessarily provide sufficient information concerning specific ways to construct and renovate evacuation shelters.

The NILIM has been conducting research and development to respond to such issues since FY 2017. This article introduces the outline of the study, results of investigating actual situations at evacuation shelters under actual earthquake damage, and results of literature searches concerning problems.

2. Outline of the study

The purpose of this study is to show specific methods and renovation technologies to ensure acceptable toilet and sanitary environment, privacy, and performances concerning noise, temperature, and light as the living environment at evacuation shelters.

This fiscal year, three levels of target standards for the living environment, the level that is close to daily lives, the level that is about the same as past evacuation shelters, and the minimum level where serious health damage would not occur were organized using information collected concerning technologies of building facilities to respond to natural disasters by taking into consideration the promulgation status of facilities at schools that are

often used as evacuation shelters, as well as advantages and disadvantages of individual facilities. Figure 1 shows the image of target standard (draft).

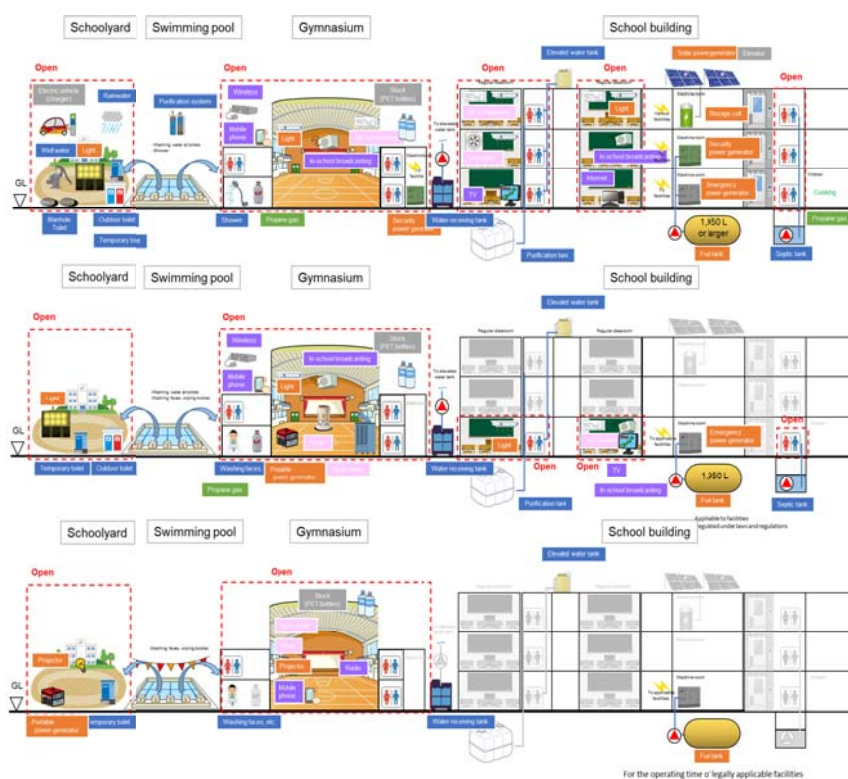


Figure 1 Image of the standard goal of the living environment at evacuation shelters (Top: the level that is close to daily lives, Middle: the level that is about the same as past cases, Bottom: the minimum level)

3. Future prospects

The NILIM is going to conduct hearings with officials of local governments concerning the adequacy of target standards and draft a manual concerning health measures for evacuation shelters. By taking into account the situations of individual local governments and expected natural disasters and reflecting the findings on natural disaster response manuals, it is possible to reduce health and mental damage during days spent in evacuation shelters.