

THE ENHANCEMENT OF THE FACILITIES FOR THE DISABLED OR HANDICAPPED AND THE ELDERLY, STATE ENTERPRISE BUILDINGS

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ABSTRACT

The building of Bank for Agriculture and Agricultural Cooperatives (the headquarters) is a state enterprise and one of public buildings which must be created accordingly to the universal design principles as well as the building control act involving providing facilities or services for people with disabilities. This study comprises of two vital objectives including first, to study the facility-usage behavior of staffs and outsiders who receive services inside building. Second, to investigate the efficacy of facilities provided for disabled and elderly persons. The research methodologies are staff and customer interview, area observation of the headquarters and branch offices by selecting only facility-usage level on mobility impairment, and facility usability simulation. The results of the observation and testing elucidated that although physical characteristics of the building is perfectly match the law, some areas are still ineffective which entails the difficulties for people with disabilities to use. Therefore, in this study, the results of area modification guideline are suggested. The details in the modification guideline result are creating disabled seats, modifying slopes, providing disabled toilet as well as allocating disabled parking spaces. According to enhancing facilities in the headquarters area by adapting universal design, the design can be used as a model for other places with an identical plan in order to equalize an opportunity and remove a life-quality obstacle of people with disabilities and elderly persons.

Keywords— Disabled, Elderly persons, Public Buildings, Universal Design

INTRODUCTION

The universal design is the design and composition of an environment so that it can be accessed, understood and utilized to the greatest extent possible by all people regardless of their age, size, ability or disability. In addition, an environment or building should be designed to meet the demands of all people who wish to use it (1). Nowadays, in spite of the fact that the Promotion and Development of Disabled Persons' Life Quality Act 2007 and Ministerial Regulation Prescribing the Types and Provision of Equipment, Facilities and Service in the Building or Other Public Services which are accessible to Persons with Disabilities 2012 have legally controlled the construction of state enterprise buildings which must design the building and environment to support people with mobility impairment (2, 3), there are some public buildings which are constructed after the establishment of the particular laws still have inefficient facilities as well as sub-standard services inside buildings. It may be due to the limited budget or lacking concern on the equivalence of people with disabilities as well as elderly persons.

The building of Bank for Agriculture and Agricultural Cooperatives (the headquarters) is a co-space public building. In other words, it is a building which is created as both office and branch bank, people who receive the services are internal staff and all types of bank customer as well as the design of facilities can response the needs of people with disabilities as well as elderly persons. However, whether the facilities and services are legally perfectly provided or whether they are effective to use, it has to be examined and tested.

In sum, the research framework in this study relies on the universal design principles. Furthermore, in designing the state-enterprise buildings, the researcher uses the information regarding facilities of disabled by adapting with concept, theories, law on facility of people with disabilities and architectural practice guide book on designing environment and facilities for everyone. Moreover, the related studies are also reviewed in order to investigate the area modification guidelines which are relevant to the laws.

OBJECTIVES

1. To study the facility-usage behavior of staffs and outsiders who receive services inside building.
2. To investigate the efficacy of facilities provided for people with disabilities and elderly persons
3. To compare legal disabled facility provision with the facility usability simulation.

METHODOLOGY

This study is classified the areas into two sections including office section and bank section. In addition, the researcher also divides the research procedures into two parts as following:

Part 1: The research procedures which are consistent with research objectives are: 1) interviewing staff and outsiders who receive services inside building in order to study the facility-usage behavior. 2) Observing office and branch bank area by selecting only facility-usage level on mobility impairment. 3) Facility usability simulation.

Besides, the researcher gathers the basic information by reviewing literatures and investigating ideas, theories, laws as well as related studies regarding universal design and facilities for people with mobility disabilities.

Part 2: The data analysis comprises of consideration and evaluation by using information from facility examination table adapted from the laws [2, 3] and design concept/guide book involving people with disabilities. Conforming to the building plan which illustrate pre-post enhancement, it is analyzed by focusing on image and area renovation. Consequently, the received data is summarized as well as modification guideline is suggested.

RESULTS

The research results are separated into two sections as following:

1. According to the facility-usage behavior of staff and outsiders who receive services inside building as well as the facility usability simulation, allocating areas and equipment was not effective enough which still caused difficulties to people with disabilities in both office and bank sections.

2. The physical characteristics and legal disabled facility provision in both office and bank sections demonstrated that most physical characteristics of the building was in accordance with the laws, but not completely identical with the universal design. Moreover, some areas were unable to response the disabled needs in flat and slope routes, parking spaces, public-relation zones and toilets.

MODIFICATION GUIDELINES

The area development ideas in each section are suggested as following:

1. The disabled seats and parking spaces should be provided, and the wheelchair signs should be distinctly attached.
2. The slope should be renovated by installing handrails as well as rough surface on the ascent and descent routes.
3. The public-relation zones should be adjusted by reducing the height of counters as well as attaching the wheelchair symbol. Besides, the LED message sign should be installed which is posited noticeably. The fonts should be more than 10 centimeters in order to publicize information and announce any warning to people with disabilities.
4. The entrance doors should be developed by creating ramps at least 45 degrees at the door threshold. In addition, the push-button for people with disabilities should be installed at doors inside the building.
5. The stairs should be improved by installing handrails on both sides as well as crating the rough surface.
6. The branch bank should provide a disabled toilet. The disabled toilet in office section should be adjusted by expanding the width of the toilet door as well as installing emergency alarm and rescue alarm inside.
7. There should be three disabled parking spaces in the parking area, and the disabled parking signs should be installed in the position which easy to notice.
8. The elevators should be enhanced by installing handles and disabled control panel inside. Moreover, the floor in front of the elevators should be changed into a rough texture.

Figure 1: illustrates the area modification in waiting zone to support people with disabilities

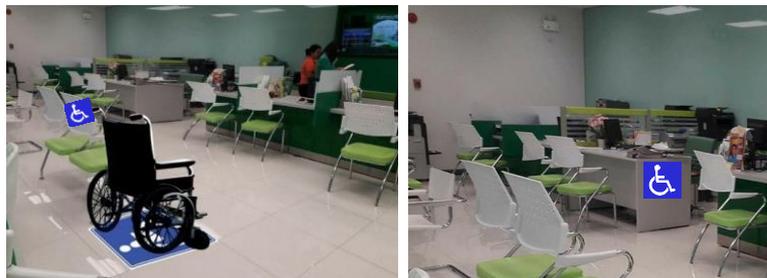


Figure 2: illustrates the example of the entrance door attached the wheelchair sign and the renovated slope in front of the building



Figure 3: illustrates the counters which are reduced the height to suite the level of disabled



Figure 5: illustrates the changed sanitary ware as well as installed disabled equipment and emergency alarm



Figure 5: illustrates the positions of new disabled parking spaces at the office area

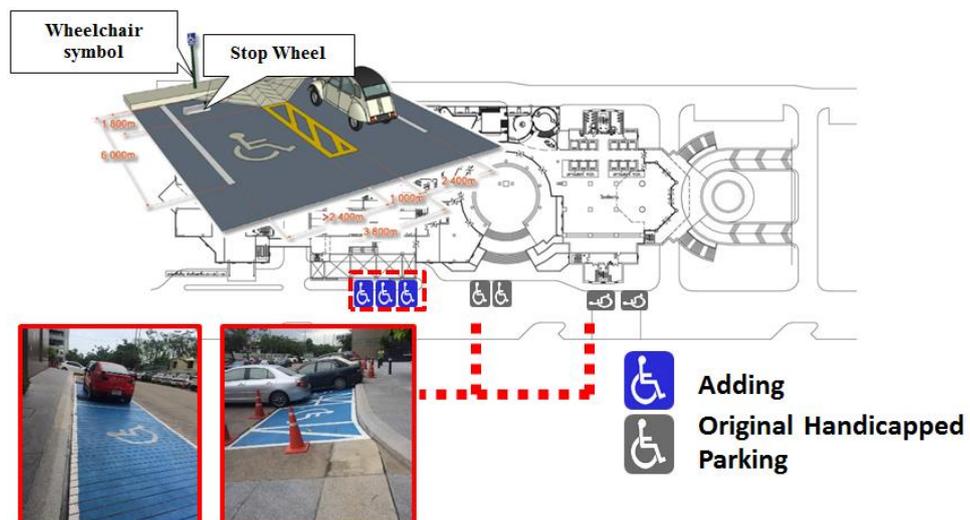


Figure 6: illustrates the examples of modification in front of the elevator (left) and enhancement inside the elevator (right) in order to response the usage of disabled in the office



SUMMARY

The Bank for Agriculture and Agricultural Cooperatives (the headquarters) is a building which supports a business expansion and provides services to customers. The facility-usage behavior of staff and outsiders as well as legal disabled facility examination by utilizing facility usability simulation in testing revealed that some facilities are under the legal standard and ineffective to use which cause disabled difficulties. In addition, although some facilities are consistent with the law, people with disabilities still have some problems after conducted the simulation. The framework of area modification covers adjusting physical appearance and adding facilities to be suitable and sufficient to use, such as providing waiting zone and adequate seats for disabled, disabled toilets and disabled parking lots in the area nearest the entrance-exit doors. The signs and equipment are installed in the public area; furthermore, flat and slope routes including slopes, stairs, elevators, gateways of the building and public-relation zones are appropriately improved in order to help staff and customers utilize and access the area the most efficiently.

CONCLUSION AND FUTURE WORKS

The area modification guideline in this study is only a suggestion in managing a part of the whole area, so the administration is initially focused on the significant obstacles of people with disabilities. Other secondary difficulties will be solved respectively in the future. The administration should be considered the facility safety and modification budget (e.g., budget on toilet areas or staff zones). The sign has to be designed with clear graphics and easy to understand as they are an effective representative in publicizing area. The area accessibility can promote rapid attention [7] Moreover, under competitive business conditions, a good area management can effectively increase value to the area as well as contribute the mission statements. Besides, considering good life quality of building users and creating social equivalence can raise the standard of organization as well as effectually represent positive image of the bank.

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REFERENCES

- [1] What is Universal Design, (2016), "<http://universaldesign.ie/What-is-Universal-Design/>".
- [2] Act for the Promotion and Development of the Quality of Life of the Disabled 2007
- [3] The ministerial regulation to determine or equipping facilities or other services in buildings, places or public services to enable people with disabilities to access and use it in 2550 B.E.
- [4] T. Jarutasna (2009B.E.) Professional Practices, Architecture, Design, Environment, and Facilities for All. 2nd edition, Bangkok: Association of Siamese Architects under Royal Patronage.
- [5] National Office for the Quality of Life of Persons with Disabilities (2555B.E.) Equipment List Guide facilities or services that meet the special needs of the disabled. Environmental research unit suitable for the elderly and the disabled. Bangkok: Ministry of Social Development and Human Security.
- [6] S. Chotipanich (2555B.E.) Knowledge of building resource management. Teaching Materials for Building Resource Management. Department of Management Science. Sukhothai Thammathirat Open University. 2nd Edition, Bangkok: Sukhothai Thammathirat Open University Press.
- [7] S. Lookrak, (2556B.E.). Graphic design, illustration, image enhancement. Bangkok (Research Report). Bangkok: Suan Sunandha Rajabhat University.