

Conservation Plan and Restoration Work of the Ranzan Country Club Clubhouse

Mitsuru Hirai

MEGURO ARCHITECTURE LABORATORY, TOKYO, JAPAN

Ryohei Kumagai

TOKYO UNIVERSITY OF SCIENCE, JAPAN

Sayu Yamaguchi

MEGURO ARCHITECTURE LABORATORY, JAPAN WOMEN'S UNIVERSITY, TOKYO, JAPAN

Naoto Suyama

TOKYO UNIVERSITY OF SCIENCE, JAPAN

Ranzan Country Club is a golf clubhouse built in 1961, designed by architect Taro Amano, a student of F.L. Wright. It was selected in 2014 for the *docomomo Japan 174*, a selection of 174 important modern buildings compiled by *docomomo* Japan. After completion, it underwent unplanned extension and reconstruction work a number of times. A new conservation and restoration plan began in 2010, and the project is now in the 5th stage. Following a master plan, construction work has been carried out whilst the clubhouse has continued in operation. The building is owned by a private company and has not been designated as a cultural property. The process of this conservation and restoration project serves as a leading example for similar projects in the future.

In this project, the original portions of the building will be left intact while the later extensions and alterations are removed, restoring it to original state while taking operational requirements into consideration. The plan is divided into three categories: safety/regulatory issues, managerial issues, and aesthetics/comfort. Prioritization of these three issues is decided partially based on surveys of club members.

As part of the restoration, studies were carried out including site surveys and detailed measurement surveys, as well as carbonation tests and destructive strength testing of concrete core samples. We also carried out interviews of the managers and documentary searches of the drawings, literature, contracts, etc. Through these preliminary studies, it was discovered that the building had undergone major extension and reconstruction works four times by 2010 losing a number of its principle elements, and that many of the surface finishes were added later to conceal wiring installed for newly-added facilities. One reason for addition of these additional finishes is that very few places were left to conceal newly-added wiring because the clubhouse structure itself composes the framework of the space.

Preserving the value of the overall building and its integrity for future generations, whilst keeping it in clubhouse use, demands the addressing of multiple issues, including improving the current method of operation, upgrading the equipment system, and enhancing seismic safety.

1. BACKGROUND AND OBJECTIVES OF THE STUDY

In recent years, discussions on the conservation of Modern Movement architectures have been active and the number of examples of restoration and utilization of such architectures has also been increasing. The conservation and repair work of modern architectures has the following features: in most cases, the buildings have not been designated as a cultural property; the buildings

are still in active use; various designers, not just conservators form part of the team. Ranzan Country Club was designed by architect Taro Amano, and built in 1961 as a clubhouse for the golf course. In 2004, it was selected for the *docomomo Japan 174*. The needs the clubhouse must meet, and the way it is used have changed over time, and in order to respond to these changes, the clubhouse has been extended and reconstructed several times. As a result, the clubhouse, which people have continued to use while its functions and area have been expanded, has deteriorated due to aging of its structure, and has developed issues concerning the provision of facilities, which have not been solved by the extensions and reconstruction. It must be emphasised that this project is an independent conservation and repair work of a private company owned building, which is not designated as a cultural property. As such it was not eligible for public funding or subsidy. It is a long-term project started in 2010, and the 5th phase of the project is now in progress.

2. OUTLINE OF THE SUBJECT OF STUDY

Ranzan CC has one floor under ground and three floors above. It is constructed of reinforced concrete and steel, and is a golf clubhouse building with a total floor area of 2000m². The design emphasizes horizontal lines through deep eaves and balconies with a central circular core that penetrates through all the floors and emerges at the roof top. There are top lights on the roof top that give a rhythmical impression to the appearance, and become elements that create character both internally and externally. The circular core is placed in the centre of the building's plan building to demarcate a large space. Wet areas are placed around the arc wall of this core. The arc walls support the overall horizontal force; therefore, slender steel pillars can be applied around the ceiling in the second floor. As the result, continuous openings have been appeared, giving a sense of extremely high openness.

Taro Amano, the designer of the clubhouse, was one of Japan's leading post-war architects, and is known for having studied under Frank Lloyd Wright. He graduated from Waseda University in 1945, and joined Kajima Corporation. From 1952-1953 he was a Taliesin Apprentice in the USA. Then in 1955 he became an assistant professor at Kogakuin University. During this period, he established an architect's office and began architectural work. In 1964 he became a professor of Tokyo University of the Arts.

3. OUTLINE OF THE CONSERVATION AND REPAIR WORK

The project's policy is to reproduce the building in its original form as much as possible and thereby recreate the charm of the building, and maintain its traditions. The work was scheduled to be carried out in 12 consecutive closed days in off season. Extra closed days could be scheduled, but would have disrupted



FIGURE 1. Taro Amano, Ranzan Country Club Clubhouse, Saitama, Japan, Exterior View. © Shiraishi Kensetsu K. K, 1962.

the functioning of the club. Thus, the work had to be packaged into small sections, and the overall project became a long-term one. Every year, after completion of each section of work, the reactions of members were observed, and the plan was reviewed, before the next year's plan was finalised. Details of the work are considered in three separate categories to make issues clear: safety and legal perspectives; business management perspective and aesthetics and comfort. Also, through obtaining cooperation with a construction company that built the original clubhouse building, a case study on a relationship between process of a long-term work project and its cost was conducted.

4. CONTENTS OF SURVEY

The conservation and repair work project of Ranzan CC Clubhouse started in 2010, with a preliminary survey, and the policy of the overall project plan was determined in 2012. The survey contents were on-site actual measurement, documentary search, sampling survey and seismic examination. Also, in considering future utilization policy and prioritization of work items, surveys of club members were conducted.

As the result of the actual measurement survey and documentary search, it was discovered that the building had undergone major extension and reconstruction work four times by 2010, and that it had lost a number of its principle elements. The floor area had been increased to 700m². The interior and exterior design of the building had been marred by the following changes: 1) loss of parts

of walls removed in order to extend the building, 2) change of window frames on north side from wood to aluminium sash, 3) loss of texture of wooden part due to painting, 4) the addition of non-original lighting equipment such as chandeliers, and air conditioning equipment.

To access seismic performance, and examination of the current building was compared with of structural drawings, a destructive test using samplings was carried out, and investigations on reinforcement arrangement within building frame by RC radar were conducted. The destructive test confirmed that concrete and reinforcing bars within the building frame, as well as the steel frames of roof structure had sufficient strength. The RC radar confirmed that the reinforcement arrangement within building frame was made in accordance with the original blueprints. Structural analysis showed that the structural resistance met performance requirements, but the eccentric core rate exceeded the standard value, so seismic reinforcement work was necessary to correct the eccentricity.

5. CONTENTS OF THE WORK

The work has been conducted in 4 phases so far. Phase A, in 2012, comprised renovation of the front desk, cloakroom area and shop. The front area retained little original historic fabric. The shop was relocated to the area in front of reception on the first floor. This improved the orientation and operational efficiency of

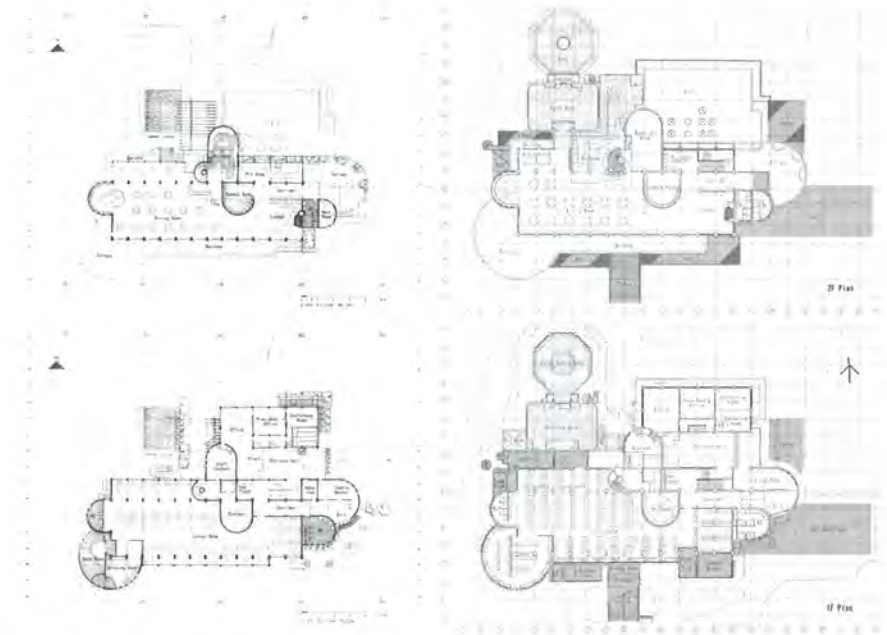


FIGURE 2. Ranzan Country Plan. The left side is completed at that time. The right side at the time in 2010. © Amano Yoshiwara and Partners, Architects, now owned by Meguro architecture laboratory.

the counter. It also allowed the space where the shop had been to be turned into an intimate chat corner. At the same time, it was found that original top lights remained above a non-original false ceiling over the front desk, so the ceiling was removed and the original top lights were restored.

In Phase B in 2013, the original appearance was reinstated by reproducing the finish of the floor, walls and ceiling of the conversation lounge. The floor finish of the entire building at the time of its completion was parquet timber, but this had been severely damaged shortly after the completion, by metal spikes on golf shoes. It had therefore been changed to carpet. However, current golf shoes mainly have soft spikes, making it possible to put a wooden floor back. A sample area was installed to confirm that this was practical, and to act as a reference for future policy. Also, tests were carried out to assess the possibility of peeling off the thick paint film from wooden elements which had not been originally painted, and assess the impact of this work and its costs. The conversation lounge was converted into a memorial room, to exhibit the history of the club. Furthermore, since the lounge had been narrow and the utilization was low, a trophy case and benches which formed a non-original partition between the lounge and the corridor were removed, and it was decided not to reproduce the original wooden lattice and benches. This allows the lounge to function in an integrated manner with the corridor. In Phase C in 2014, because of the success of the reproduction of the floor finish and paint removal in Phase B, these aspects of were carried out throughout the second floor. Also, chandeliers which were installed throughout the second floor after the building was first constructed were removed, and by utilizing small holes left after the removal, small downlights were added as supplemental lighting, to the original lighting fixtures which were reproduced. In addition, furniture and screens for a small dining room were reproduced. Seismic reinforcing work to recover the eccentric core rate of the second floor was conducted: steel frames which could be inserted within the framework of the existing wooden fittings were made.

In Phase D in 2015, in addition to the reproduction of area around pantry on the second floor, new furniture was added to increase the utilization of the lounge. The pantry could not be fully reproduced, as the kitchen is currently located in the extension building, which is different from the original location. On the assumption that the kitchen will be moved to the original location later, reproduction of these elements was left until this occurs.

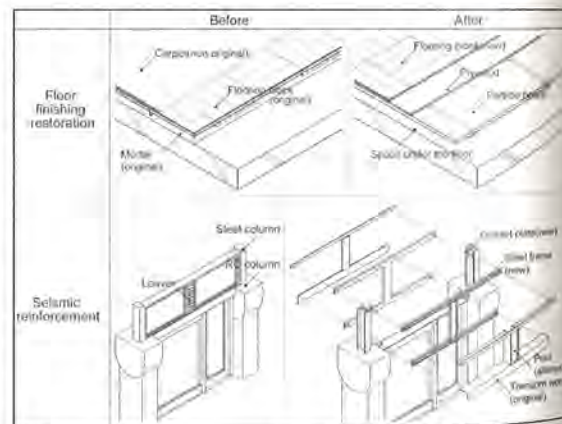


FIGURE 3. Renovation of floor detail and seismic strengthening detail.
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6. SOLUTION TO CONSERVATION METHOD

Contents of each phase of work can be classified in one of 3 ways (A) no change necessary – reproduction to exactly replicate the original; (B) reproduction based on the original design, partial changes were applied; and (C) changes or additions to the original design.

Type (A) works include the ceiling above the front desk and top lights, treatment of the wooden furniture and wooden part of its interior (where the paint film applied later was peeled off to restore the original, allowing reproduction of the original surfaces finishes).

Type (B) works included reproduction of flooring. Many flooring blocks were significantly deteriorated, their mortar foundation was problematic because of its weight and impact on seismic performance. Further, removal of the mortar allowed installation of a false floor and, by arranging wires under the floor, flexible furniture layout became possible. Without changing floor level.

Type (C) works include the front desk counter on the first floor, and fixtures that were constructed to hide the air conditioner, and furnishings on the second floor. As for the front desk counter on the first floor, the cross section dimensions were taken from the original drawings for the design work and ingenuity was exercised to avoid disturbing the harmony of the space, whilst changing their shape to suit current operational requirements.

7. SUMMARY

“A” is a method to recover both the usage and performance, of the time of the completion of the building, where this is compatible with current usage. It was also necessary to consider the implications of recovery of these elements on other parts of the building. Conservation and problem solving were compatible and thus it is possible to restore purely.

“B” requires the justification of performance improvement. In flooring and screens in the small dining room, a composite problem solution was justified by improved seismic performance and use.

“C” responds to uses that were not intended or facilities that did not exist at the time of the first completion of the building, and where partial solutions had been put in place. When we see the above mentioned methods shown in table 1, method C is often used for space, equipment and furniture where the uses have changed. Method B is generally used for construction elements.

This paper discussed the methods of conservation and repair work for *Ranzan CC Clubhouse* and its original furniture. This was a long-term and phased programme of work, which took into consideration the need to keep disruption of the commercial operation of the building to a minimum. It also conceptualised different approaches for retained and missing elements of the original fabric and implemented changes to satisfy new operational requirements while respecting

the harmony with the space. In the future there will be further issues to address when the removal of the extension will require reinstatement of more elements, including parts of the building skeleton.

TIME	PLACE	INTERVENTION CONTENTS	CLASSIFICATION
2012	Front desk	Change of the front desk direction	C
		Installing of the shop	C
		Restoration of the roof lights ceiling	A
	Cloakroom	Closing of the opening	C
	Conversation corner	Finishing carpentry and furniture setting	C
		Repair of the ceilings	A
	Lounge	Installing of the new furnitures	C
Memorial room	Removal of the entrance door	A	
2013	Memorial room	Restoration of the flooring block finishing	B
		Restoration of the lithin finish on the walls	B
		Installing of showcases and equipments	C
	Corridor in 2 nd floor	Change into the space integrated with the lounge	C
	Lounge	Floor finishing around the fireplace	B
		Restoration of the paint on the ceiling wood carpentry	A
Removal of the trophy plates		A	
2014	Dining room and lounge	Restoration of the flooring block finishing	B
		Replacement of the chandelier lightings to the downlights	C
		Restoration of the paint of wood carpentry	A
	Dining room	Restoration of the spandrel wall in the small dining space	B
		Seismic reinforcement in the transom of south façade	B
		Restoration of the ceiling light	A
		Redesign of tables and chairs	B
	Dining room for drivers	Restoration of the ceiling and ceiling light	A
	Staircase	Restoration of the paint on the ceiling wood carpentry	A
2015	Pantry	Restoration of the ceiling and ceiling light	A
		Restoration of the counter and the louver	B
		Replacement of the partition added later	C
	Lounge	Installing of the sideboard and furnitures	C

A - Restoration into the original state
 B - Partial change based on the original design
 C - Change of the original design

TABLE 1. Classification of the construction contents. © The paper's authors.