



Kenzo Tange, The Kagawa Prefectural Government Office East building, Kagawa, Japan, 1958. The East building (in front) and the main building, completed in 2000 (to the rear). © Toshihiro Misaki, 2009.

## Efforts to Improve the Earthquake Resistance of the Kagawa Prefectural Government Office East Building

BY KEIZO HAMADA

The Kagawa Prefectural Government Office East Building, designed by Kenzo Tange, was completed in 1958, and in addition to acting as an important disaster prevention base facility, it possesses a cultural value through its many spaces open to the public and its expression of traditional Japanese architectural ideas in concrete. It is part of the current government offices, and while the concrete itself is expected to be viable for over 50 years, it will require substantial improvements in order to meet the most recent earthquake resistance standards.

As such, Kagawa Prefecture, through advice from specialists and discussion in the Prefectural Assembly, has considered the possible earthquake resistance improvements that could be made, including reconstruction, seismic isolation retrofitting, and seismic strengthening. It was concluded that in consideration of earthquake resistance, its office functions, costs involved, and the cultural value of the building, it would be appropriate to preserve the building and improve its earthquake resistance through base isolation construction methods, and efforts are being made to gain the support and understanding of the people of the prefecture and pursue this policy going forward.

Kagawa Prefecture<sup>1</sup> is located in the northeastern area of Shikoku and while it is the smallest prefecture in Japan by land area, it is blessed with abundant nature which displays the beauty of the four seasons, including verdant mountains and the Seto Inland Sea. In fact, the Seto Inland Sea was the first national park established in Japan, and when the German geographer Ferdinand Freiherr von Richthofen visited, he proclaimed, “Could there be anywhere in the world more beautiful than this?”<sup>2</sup>. With the natural gems, a temperate climate, and relatively little rainfall, Kagawa flourished historically as an important location in maritime transport, with unique industries and culture that developed as a result.

The area is well endowed culturally, with Ritsurin Garden, the *daimyō* garden that has been awarded three stars by the *Michelin Green Guide Japan*; local crafts including Kagawa lacquerware, and many museums including the Chichu Art Museum on the internationally renowned island of Naoshima, the Garden Museum of the international sculptor Isamu Noguchi<sup>3</sup>, and the Museum of Contemporary Art of Genichiro Inokuma<sup>4</sup>, who was born in Kagawa. The *Setouchi Triennale*<sup>5</sup>, an international art festival that takes place across the many islands of the Seto Inland Sea, welcomes a large number of international patrons and has received high praise. Kagawa continues in its efforts to establish itself as the “Art Prefecture” and utilize its many cultural resources.

The Kagawa Prefectural Government Office East building (referred to as “East building”) (essay cover) was completed in 1958 in the “Art Prefecture” and is symbolic of the

post-World War 2 modernist architecture found in Japan which Kenzo Tange<sup>6</sup> worked on. More than half a century has passed and it still functions as the government offices of Kagawa Prefecture and is well liked as offices that are open to local people.

Kagawa is currently pursuing a number of ways to improve the earthquake resistance of the East building, considering a number of aspects including disaster prevention, and financial and cultural elements. I would like to give an overview of these efforts here.

### The Importance of Improving Earthquake Resistance

In the seismic occurrence assessment issued by the Japanese government, there is a 70% chance of a large scale (Magnitude 8–9) earthquake occurring in the next 30 years with its epicenter in the Nankai Trough region, which would affect a wide area including Kagawa<sup>7</sup>. In the *Basic Guidelines for Earthquake Resistance Improvement of Facilities Owned by the Prefecture Kagawa* has designated the East building as an important disaster prevention base facility, which will provide direction of emergency measures, and transmit information during a large scale disaster.

However, the earthquake resistance of the East building is less than 0.30 on the Seismic Index of Structure<sup>8</sup>, which means that it is within the range where there is a high risk of collapse or destruction following the shock a large scale earthquake of 6 to 7 on the Japanese seismic intensity scale. For example, there were many instances following



the Great East Japan Earthquake in 2011 of government offices which were less than 0.30 on the Seismic Index of Structure that were rendered unfit for use after damage from the earthquake. It is for this reason that improving the earthquake resistance of the East building has become such a pressing issue, as it does not reach 0.90 on the Seismic Index of Structure that is the current standard required in Japan for disaster prevention base facilities.

With regards to the concrete of the structure, test results in 2012 of the strength and carbonation of the concrete showed that considering its thickness, the state of carbonation, and its sufficient strength, with appropriate management, it would be possible to maintain it for more than the next 50 years.

### Cultural Value

Masanori Kaneko<sup>9</sup>, the Governor of Kagawa Prefecture at the time of construction, developed a clear concept for the building, one of utilizing resources from within the prefecture, and expressing the period of democracy following the Second World War, which was in line with his vision for the future of Kagawa and Takamatsu as an area of tourism. It was this concept that Kenzo Tange produced in the East building (the Main building at the time). The building is highly regarded as possessing cultural value through its realization of traditional Japanese wooden architectural designs with concrete, its positive use of space made open to the public, cooperation with artists in construction, and its central core system.

In the period after the World War 2 where authoritarian styles were widely used in government buildings, the East building established the democratic “open offices” that allowed local people to enter freely and relax. It became the model for government buildings in Japan from then on.

The East building has been presented with the first building Contractors Society Award, was selected as one of the Public Architecture 100<sup>10</sup> and was included in the **docomomo Japan 20**<sup>11</sup>.

The main elements of its cultural value are the following:

- Open spaces for the people of the prefecture: the plentiful open spaces of the *pilotis* and lobby connect to the south garden and its artificial hills (figure 2).
- Creation from tradition: a combination of pillars and beams that are reminiscent of wooden buildings express traditional Japanese wooden architectural ideas using concrete. In front of the building is the south garden, a Japanese garden (figure 1).
- Integration of art: the wall painting “Wa-Kei-Sei-Jaku”<sup>12</sup> produced by Genichiro Inokuma works in harmony with the glass windows of the lobby (figure 4). The furniture was designed by the interior designer Isamu Kenmochi<sup>13</sup>, who combined traditional Japanese designs with modern materials and techniques.
- The center core system: the structural “spinal cord” is the anti-seismic wall placed at the center of the building, and was the first of its kind in Japan. The public facilities including the stairs, elevator, and toilets, are centered on the core, and an open office space is realized utilizing partitions (figure 5).

- Space rich with local influence: the floor tiles and garden stones are made using material from Kagawa, including *Aji* stones (a well-known kind of granite). Doors are made using the traditional Kagawa *gotōnurī*<sup>14</sup> lacquerware. The handsome concrete surfaces were handmade by local artisans.

### The Basic Approach

In order to hold wide ranging deliberations that examine the improvement of earthquake resistance for the East building from a specialist vantage, Kagawa convened the “Preservation and Earthquake Resistance Improvement of the East building Review Committee”, consisting of a number of experts from various fields including earthquake-proofing, the history of design and architecture, culture, economics, and mass communication. The committee decided on a basic approach for preservation and strengthening.

The chairman of the Review Committee was Tsuneo Okada (Emeritus Professor of the University of Tokyo) and the members were Hiroshi Matusukuma (Professor at the Kyoto Institute of Technology, Representative of **docomomo Japan**), and 5 others.

In February 2014, the review committee produced a report<sup>15</sup> which made the following statements:

*“The East building was a building selected in the **docomomo Japan 20**, and its value is internationally recognized. The cultural value of the building has been confirmed at this time, and we should act to preserve it for the future. (...) With regards to the preservation and improvement of earthquake resistance (...) more examination of further details regarding the anti-seismic construction methods is desirable, mainly considering base isolation construction methods that are widely used for earthquake resistance improvement in government offices and buildings of cultural worth. (...) We suggest careful examination of the available methods, with a comparative cost evaluation of reconstruction and earthquake resistance improvement, keeping in mind the desire to limit costs.”*

### Detailed Investigation into Methods for Earthquake Resistance Improvement

In 2014 following the report produced by the review committee, Kagawa Prefecture undertook a detailed technological investigation with the help of two of the committee members, Tsuneo Okada, Emeritus Professor at The University of Tokyo, and Hiroshi Matsukuma, Professor at the Kyoto Institute of Technology, and other specialists in the areas of earthquake-proofing, architecture, and culture.

In September 2014, the results of the comparative review of the earthquake resistance improvement proposals, including reconstruction, seismic isolation retrofitting, and seismic strengthening were presented to the Kagawa Prefectural Assembly. This produced a lively debate on the issues, and the following points were raised during question and answer sessions. There is a need to address the life cycle costs of the various proposals, including management costs and reconstruction costs in the medium to long term, not simply the construction and transfer costs in the short

01 Kenzo Tange, The Kagawa Prefectural Government Office East building, Kagawa, Japan, 1958. Outer view of the East building which shows the expression of traditional Japanese wooden architectural ideas. © Toshihiro Misaki, 2009.



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02 Kenzo Tange, The Kagawa Prefectural Government Office East building, Kagawa, Japan, 1958. The open-plan piloti which connect the lobby and the south garden. © Kagawa Prefecture, 2014.



term. In the reconstruction proposals would it be possible to improve the building's office function by increasing floor space in line with current regulations on floor area ratio? If the quality of the concrete continues to degrade, what is the expected lifespan of the East building and to when can we expect to preserve it? What policies have been considered to gain the support of local people, convincing them of the cultural worth of the building and importance of strengthening the East building? What does the committee think of the proposal to refine and narrow the scope of the improvements?

### The Main Earthquake Resistance Improvement Proposals Reviewed

#### Seismic Strengthening

(Construction period: around 1.5 years, Construction costs: US \$31.5 million, Construction and management costs over 100 years (life cycle costs): US \$153.30 million).

This proposal aimed to improve resistance through strengthening the building with the use of support pillars and expansion of the anti-seismic wall made of reinforced concrete. While this proposal has the advantage of having the least expensive construction and life cycle costs, it would be necessary to relocate to temporary offices during construction, and with the expansion of the anti-seismic wall around the central pillar, the offices, lobby, and piloti would be divided, and its functionality as an office drastically reduced, while also introducing many changes to the inner and outer appearance.

#### Seismic Isolation Retrofitting

(Construction period: around 2 years, Construction costs: US \$31.5 million, Life cycle costs: US \$158.4 million).

This proposal would make it so that the shaking of earthquakes was not directly transferred to the upper sections of the building through the separation of the foundations from its upper structure, and affixing the seismic base isolation system in between. Construction would be possible while continuing to use the building, office space and functionality would be maintained, and there would be little change to the inner and outer appearance.

#### Reconstruction

(Construction period: around 3.5 years, Construction costs: US \$63.87 million, Life cycle costs US \$166-204 million).

This proposal would reconstitute the building into a steel construction using base isolation of the foundation. While this proposal has the strength of preserving (and increasing) office space, it has the highest life cycle costs of all the options, and would require large scale changes to the inner and outer appearance of the building.

### Selection of the Improvement Method

Based on the advice received from specialists, and the discussion from the Prefectural Assembly, the evaluation criteria were marked A-C based on importance in order to proceed with selection. The seismic resistance as a disaster

prevention base facility, preservation of its function as a government office building, and costs such as life cycle costs were all determined to be of the highest importance, and given the rank A. Next, limitations on usage during construction, construction period, and impact on cultural worth were given rank B. The other considerations of environment impact, and technological practicality were given rank C. As a result of this evaluation, the seismic isolation retrofitting proposal, which would strengthen both the high-rise and low-rise buildings, in addition to seismic strengthening of the roof tower, which contains no office space, was seen to have the highest rank in each of the important areas, and was deemed the most appropriate method of earthquake resistance improvement. I announced these results to the Prefectural Assembly in November 2014 (figure 3).

Specifically, the seismic isolation retrofitting proposal would ensure the seismic resistance of the building as a disaster prevention base facility, would preserve the office function without dividing the offices with the anti-seismic wall, would require life cycle costs less than the reconstruction proposal, would not require temporary offices during construction, would not alter the inner and outer appearance of the building, would have little impact on the cultural value of the building, and would produce the lowest level of disturbance, noise, and waste during construction.

As I have stated, this strengthening of the East building is a pressing issue, and I intend to implement these renovations at the earliest possible time.

- 03 (Next page) © Excerpted from Kagawa Prefectural Assembly General Affairs Committee "Kagawa Prefectural Government Office East Building Earthquake-proofing Construction" (English version), December 1, 2014. Written by Kagawa Prefectural General Affairs Department.

#### Notes (Figure 03)

\* 1: In the Basic Guidelines for Earthquake Resistance Improvement of Facilities Owned by the Prefecture, this is the structural anti-seismic function as defined in the "Evaluation, Renovation Standards, and General Examination of Earthquake Resistance Standards of Government Buildings" that is necessary each time facilities are divided. Disaster prevention base facility (emergency response facility), relief facility: Category I The building must be able to be used without support after a large earthquake, maintaining its functionality in addition to its ability to ensure safety. Evacuation facility, schools, multipurpose facility: Category II The building must be able to be used without support after a large earthquake, maintaining its functionality in addition to its ability to ensure safety.

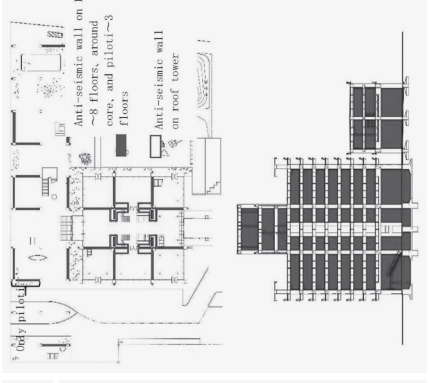
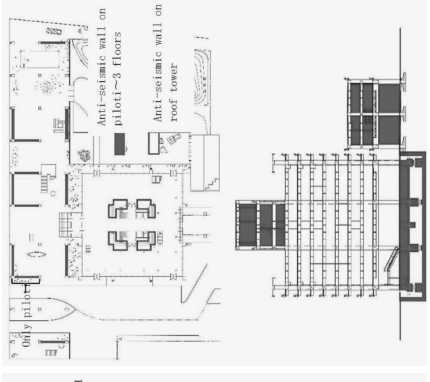
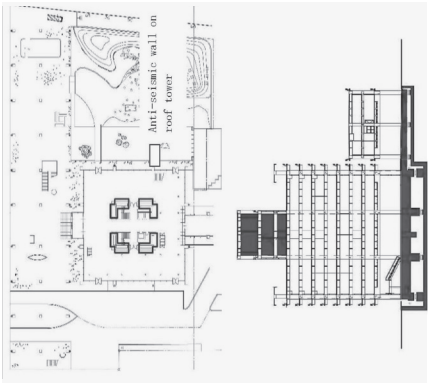
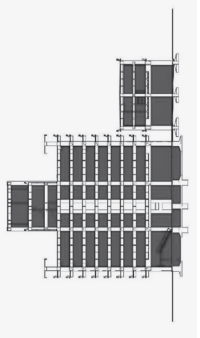
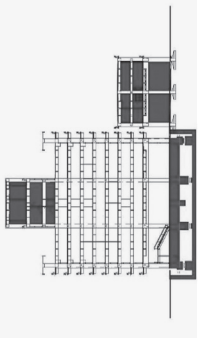
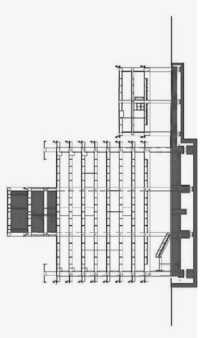
Other: Category III The building will be able to ensure safety, with little degradation of its overall earthquake resistance, even after sustaining minor damage in a large earthquake.

\* 2: Regarding the limitations of the Building Standards Act (for public spaces), examination with the special administration offices will be required.

\* 3: Life Cycle Costs (LCC) refer to the costs calculated over the 100 years from the present if the earthquake resistance improvement plan will last 100 years with reconstruction after 50 years, and the reconstruction plan will last 100 years with improvements after 50 years or with re-construction after 50 years.

The difference shows comparison between the reconstruction plan and other plans.

### Method

		Earthquake Resistance Improvement Plans			
		Plan 1	Plan 2	Plan 3	Reconstruction Plan
		High rise: Seismic strengthening Low rise: Seismic strengthening	High rise: Base isolation + Seismic strengthening Low rise: Seismic strengthening	High rise: Base isolation + Seismic strengthening Low rise: Base isolation	
<b>Field</b>					
	Overview Diagram				
	⊗ Base shown in separate figure				
	Overview of the plan	<b>High rise</b> Anti-seismic wall would be placed around central pillar on floors 1-8, around core, and roof tower <b>Low rise</b> Anti-seismic wall on pilot-floors 2,3*	<b>High rise</b> New base isolation in foundation Anti-seismic wall on roof tower <b>Low rise</b> New base isolation in foundation	<b>High rise</b> New base isolation in foundation Anti-seismic wall on roof tower <b>Low rise</b> New base isolation in foundation	Deconstruction and reconstruction of East Building
Importance	Evaluation Criteria	Evaluation	Evaluation	Evaluation	Evaluation
A	Anti-seismic Function*1	++ Maintains function as disaster prevention base facility Structure category I	++ Maintains function as disaster prevention base facility Structure category I	++ Maintains function as disaster prevention base facility Structure category I	++ Maintains function as disaster prevention base facility Structure category I
	Functionality after completion	- The anti-seismic wall around central pillar would require partition of the lobby and office areas, greatly decreasing functionality. The function of the pilot would also decline. ++ Around 3.7bil (Construction: 3.4bil) Temporary offices: 300mil (Construction: 18bil) (▲ 1.5 ≈ ▲ 6bil)**3	- The office space and function in the high rise building would not change, but office space would be reduced in the low rise building because of the anti-seismic wall. The function of the pilot would also decline. ++ Around 3.6bil (Construction: 3.5bil) Temporary offices: 100mil (Construction: 18bil) (▲ 1.5 ≈ ▲ 6bil)	++ The office space and function would not change + Around 4.2bil (Construction: 4.2bil) CC around 18.6bil (▲ 900mil ≈ ▲ 5.4bil)	++ With, reconstruction office space and function would be maintained (and increased) - Around 7.5bil (Construction: 600mil) Reconstruction 6.2bil Temporary offices 700mil) (CC around 19.5 ≈ 24 bil)
	Construction Costs (Yen)	- Temporary offices necessary during construction ++ Around 1 and a half years	+ Use of high rise building will be able to continue, but temporary offices will be necessary for low rise building and part of high rise, which connects to the low rise. + Around 2 years	++ Construction will not affect the use of either buildings. + Around 2 years	- Temporary offices necessary from deconstruction to completion. - Around 3 and a half years
B	Limitations on Use During Construction				
	Construction Period	++ Around 1 and a half years - The outer appearance of the high rise building will not change, however, the inner appearance will dramatically change with the loss of the lobby, as will the inner and outer appearance of the low rise building as a result of the anti-seismic wall.	- The outer appearance of the high rise building will not change. The anti-seismic wall will result in drastic change to the inner and outer appearance of the low rise building. + Less need to consider impact of noise, dust, and vibrations in comparison to only seismic strengthening.	++ No changes to the inner and outer appearance of the low and high rise buildings. ++ Smallest impact of noise, dust, and vibrations.	- Large scale changes to appearance during reconstruction. - Deconstruction will produce the most noise, dust, and vibrations.
C	Preservation of Cultural Value	- More than base isolation, consideration of impact of noise, dust, and vibrations will be necessary. ++ Many cases of seismic strengthening. Construction is standard.	+ Base isolation provides fewer examples compared to seismic strengthening, but is an established method.	+ Base isolation provides fewer examples compared to seismic strengthening, but is an established method.	++ Many examples of new construction on the same scale as the present Main Building.
	Workability	- Will produce a large amount of industrial waste compared to base isolation.	+ Will produce a smaller amount of industrial waste than only seismic strengthening.	+ Will produce a smaller amount of industrial waste than only seismic strengthening.	- Will produce the largest amount of industrial waste as a result of deconstruction.
Overall Rating		+	+	++	-



04 Kenzo Tange, The Kagawa Prefectural Government Office East building, Kagawa, Japan, 1958. The “Wa-Kei-Sei-Jaku” wall of Genichiro Inokuma which greets you in the lobby. © Kagawa Prefecture, 2014.



05 Kenzo Tange, The Kagawa Prefectural Government Office East building, Kagawa, Japan, 1958. An open office space. © Seiji Izumi, 2014.

### Efforts to Gain the Understanding of Local People

In proceeding with the earthquake resistance improvement of the East building, ensuring the support and understanding of the people of the prefecture is of the highest importance. In the course of discussions, the point was raised that local people may not view the building as one of cultural worth that must be preserved despite costs because it should only play a vital role as the government offices even if it is the architecture of Kenzo Tange.

Seismic isolation retrofitting was selected as the improvement method having been evaluated from many different perspectives, including the importance of its earthquake resistance in terms of disaster prevention, and this method, without considering cultural value, is widely used throughout the country. In terms of its cultural worth, we consider it important to convey to local people that this is their building, and that it has historical and cultural worth as the realization of beginning of the democratic period after World War 2 in Japan as a building open to local people, and is not merely valued because it is the work of an internationally renowned architect, the authority or “the Starchitect”.

For this reason, Kagawa Prefecture has opened the Prefectural Offices Gallery on the first floor of the East building (figure 6), which exhibits the history and properties of the building. Guided tours by government officials have been running year-round as of September 2014, and have received more than 200 participants in the three months since commencement. In addition, the prefecture has produced a website, pamphlets,<sup>16</sup> and other promotional materials, and I intend to continue these efforts going forward to ensure the support and participation of local people in the improvement of earthquake resistance.

### Conclusion

In Japan, over 100 years has passed since reinforced concrete first came to be used in construction, and as we are faced with the issue of improving earthquake resistance to cope with predicted large scale earthquakes, the state of modern architecture going forward is being debated from a number of perspectives, including economic, cultural, and historical.

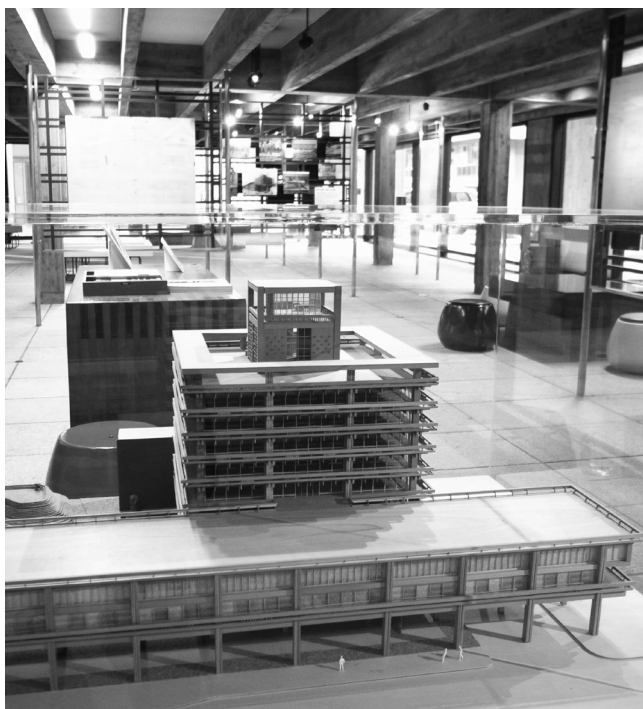
In light of this, I am very aware of my duty to pass on to successive generations this important building through improving the earthquake resistance of the East building, to preserve and utilize its cultural worth, and ensure it is able to continue in its main function as a government office building. I hope that the efforts of Kagawa to improve the earthquake resistance of the East building will be of some use to others seeking to utilize and pass on other modern buildings, and I hope that readers will visit Kagawa, to explore the many attractions of the “Art Prefecture”, beginning with the East building.

Finally, I would like to extend my deepest thanks to the Chair of **docomomo** International, Ana Tostões, whose visit to Kagawa was the driving force behind this article, and to everyone else involved. ■

### Notes

- 1 Population: 980,582 (Dec. 2012), Area: 1,875.92km<sup>2</sup>, Annual Rainfall (Takamatsu): 1082.3mm (1981–2010 average), Average Annual Temperature: 16.3°C (figure 7).
- 2 “Tagebucher aus China”, Ferdinand Freiherr von Richthofen
- 3 Isamu Noguchi (1904–1988) was born in Los Angeles, USA. After he spent his younger days in Japan he went to America hoping to become a sculptor. After taking up residence in New York, he worked on a wide range of projects, including portrait sculpture, performing arts, and landscape architecture. His later years he spent in Mure Town (present day Takamatsu City) in Kagawa Prefecture where he had a





06 Kenzo Tange, The Kagawa Prefectural Government Office East building, Kagawa, Japan, 1958. The Prefectural offices gallery. © Kagawa Prefecture, 2015.



07 Overview: The Seto Inland Sea and Islands, the East Building, and Ritsurin Garden in Takamatsu, Kagawa. © Kagawa Prefecture Tourism Association.

base studio, and he continued to work in the USA and Japan. His representative works include the Paris UNESCO Headquarters garden.

4 Genichiro Inokuma (1902–1993) was born in Kagawa Prefecture. After graduating from the Tokyo University of Fine Arts (currently the Tokyo University of the Arts) he founded the New Creation Group with Ryohei Koiso. In 1938, he moved to France where he met Matisse and Picasso who greatly influenced him. After the war, he worked in New York and Hawaii, bonding with a wide range of artists. His representative works include the mural “Jiyu – Freedom” in JR East Japan Ueno Station.

5 This art festival, with a theme of the “revival of the sea” has taken place every three years from its commencement in 2010, and places artwork across the islands of the Seto Inland Sea, which is bordered by Kagawa. 2013 marked its second opening, with over 200 artists from 26 countries participating to produce 207 artworks over 12 islands that drew 1.07 million visitors during 108 days of exhibition.

6 Kenzo Tange (1913–2005) was born in Osaka. Following his graduation from Tokyo Imperial University (currently the University of Tokyo) where he studied engineering, he worked at the Maekawa Kunio Associates Office, he then opened the Tange Research Lab at the Tokyo Imperial University, and worked on a number of projects. In 1987, he was awarded the Pritzker Architecture Prize, which marked the first time it went to a Japanese person. He has worked on over 300 buildings and city plans in 31 countries around the world. Representative works of his include the East Building of the Kagawa Prefectural Government Offices, the Hiroshima Peace Memorial Park and Museum, and the Yoyogi National Gymnasium.

7 Earthquake Research Committee URL: <http://www.jishin.go.jp/main/choukihyoka/kaikou.htm> (in Japanese)

8 Produced by the Japan Seismic Diagnosis Association.

9 Masanori Kaneko (1907–1996) was born in Kagawa. After graduating from the Tokyo Imperial University where he studied law he became a judge; he retired as Chair of the Tokyo Court of Appeals in 1946. He became Governor of Kagawa Prefecture in 1947, a role he maintained over 6 terms, and 24 years. He is known as the “Architecture Governor” and the “Design Governor” through his connection to many artists and architects, including Kenzo Tange and Isamu Noguchi, and through his work in promoting the construction of many unique public buildings.

10 A list of 100 buildings deemed excellent by the national government

to commemorate the 50<sup>th</sup> anniversary of the Ministry of Construction.

11 **docomomo** Japan, Selection 20 (2000).

12 This word comes from the tea ceremony. The four characters, “Wa”, “Kei”, “Sei” and “Jaku” mean “harmony”, “respect”, “purity” and “tranquility”, respectively, and the word has the meaning of harmoniously respecting one’s partner. With this abstract piece, Genichiro Inokuma sought to express the spirit of tea, which is found in *Wa-Kei-Sei-Jaku*, and democracy which he felt Japan should embrace, which is also found in the tea ceremony.

13 Isamu Kenmochi (1912–1971) was born in Tokyo. After graduation from what is now Chiba University in the engineering department, he joined the Ministry of Commerce and Industry (now the Ministry of Economy, Trade, and Industry), where he studied under Bruno Taut. Following this he developed the fundamentals of the design which is known as “Japanese Modern”. His works include, the rattan chair, which is in permanent display at the Museum of Modern Art in New York City.

14 This is one technique of Kagawa lacquerware that can be compared to the *Wajimanuri* lacquerware. It was developed in Kagawa in the Meiji Period (1868–1912) by Taihei Gotō. It was used for tea utensils, but because of its elegance and durability, it also came to be used for small boxes and delicate trays.

15 Report of the Review Committee for the Preservation and Earthquake Resistance Improvement of the East Building, Kagawa Prefecture, February 2014.

16 <http://www.pref.kagawa.lg.jp/zaisankeiei/higashikan/18eng2.pdf>

#### Keizo Hamada

(b. 1952, Japan). Governor of Kagawa Prefecture. After graduating from the University of Tokyo in 1975 where he studied law, he entered the Ministry of Finance in April of the same year. He assumed his current position as Governor in September 2010 after serving as the Director of the National Debt Division, Financial Bureau, Ministry of Finance, Director-General of the Tokai Local Finance Bureau, and Director-General of Tokyo Customs. He is currently serving his second term as Governor.