

Incorporating heritage park design and cultural assets

The case of the Sado Mines Heritage Sites.

Koichiro Sakitani*

* EAU, ltd, saki@eau-a.co.jp

Thinking in recent years in relation to cultural assets in Japan has primarily focused on the preservation, repair, or restoration of designated and select cultural assets. Meanwhile the design of the environment surrounding such assets has, apart from some exceptions, not always been made with such an environment in mind. While the technology and know-how in relation to the preservation and maintenance of cultural assets themselves have continued to progress, the environment around such assets and their related infrastructure lacks a comprehensive, overall system of control. As a consequence, more often than not there has been an absence of space cohesiveness, consistency in concept, and quality in aspects of space design.

This paper shall consider both illustrative and actual reports on public-area design surrounding cultural assets nominated by Sado City in Niigata Prefecture for registry as world heritage sites, taking into consideration the background to projects, the course of developments, the design process, important points in the design arrangements for areas around the assets, issues related to the environmental design around the assets, and future developments.

Key Words: World Heritage Site, Urban planning, Former Sado Mine, Cultural Assets, Excavation research, Design for Public spaces.

1. Introduction

For many towns and regions facing the issues of population decline, aging societies and economic stagnation, tourism may provide an answer.

The 21st century is said to be the age of tourism. In the 1980s, Japan's official tourism policy promoted traditional culture and historical areas, typified in the establishment of Preservation Districts for Groups of Traditional Buildings. In line with global trends, this approach has started to bear fruit in recent years with towns across the country being revitalised through their attempts to be registered as World Heritage Sites, as well as the increasing prevalence of urban planning. Of course, tourism is not the only motivation for being registered as a World Heritage Site or Preservation District. However, it is not a bad thing to consider the potential and attraction of a town in order to form of a sustainable local economy. After all, the fundamental challenge of modern urban development is to create an environment in which local people develop a sense of pride and their lives are enriched.

As you may know, UNESCO's World Heritage Site list is an internationally recognized register of natural environments or immovable cultural assets of historic, artistic or academic value to all people, regardless of

nationality. The list preserves the common heritage of humanity and manages conservation to ensure these treasures are handed down to the next generation. (It is worth noting that the World Heritage Site movement began in 1954, when the Egyptian government planned to build the Aswan High Dam along the Nile, a plan that would have flooded the valley containing many ancient treasures such as the Abu Simbel Temples and the Nubian Monuments). As of September 2012, a total of 962 locations, including 745 cultural, 188 natural and 29 mixed sites, are listed across 157 countries. Japan includes 16. Since December 1993, 12 cultural and 4 natural sites have been listed[1,2].

To register as a World Heritage Site, it is necessary to obtain certification by UNESCO, or the United Nations Educational, Scientific and Cultural Organisation. The applicant is then obliged to conserve both the asset and the surrounding environment. Extremely important are the quality of the elements that make up the site, such as the buildings and civil engineering structures. It is also vital to consider the site's components, such as the cultural assets, landscape and natural environment, so that the universal value of a site is not disturbed.

2. Project Overview

2.1 Case study: Working towards World Heritage Site listing – Aikawa, City of Sado



Figure.1 Sado Island, 45km west of Niigata city.



Figure.2 Kyo-machi Street. It was built along the ridge by Nagayasu Okubo, Sado's magistrate during the Edo period.

As previously mentioned, there is a movement towards urban development driven by World Heritage Site listing. One example of this can be found in Sado City, in Niigata Prefecture. Located in the Sea of Japan, Sado Island (Figure 1), has served as a trading hub with the mainland since ancient times. It has a rich and colourful history and culture, as well as a being blessed with a beautiful natural environment. Above all, Sado has long been famous around Japan for extracting minerals, such as gold and silver.

Aikawa, on Sado Island, was a mining town that was developed as a Shogunate territory in the Edo Period. This is still strongly evident in the city's pre-modern structure and historic magistrate's office (Figure 2). In the Meiji era, Aikawa was amongst the first to modernise its mining industry, and was the leader in Japan's precious metals mining field in terms of both production volume and technology. Its facilities continued to operate until

1989. Since that time, due to their great historical value, these facilities have been conserved and designated as a National Historic Sites.

The Sado City government, focusing on these mines which were central to Aikawa in the early to late modern period, is aiming for “The Sado Facilities of Heritage Mines, Primarily Gold Mines” to be registered as a World Heritage Site. As of 22nd November 2010, it was one of 13 places within Japan, registered on the World Heritage Site Tentative list.

2.2 Adoption of the urban planning development grant project

While working to become a World Heritage Site, Sado City also adopted a 5 year Urban Development grant project in Kitazawa district, Ohma district and downtown in Aikawa, which ran from 2007 to 2012. The total budget of the Urban Development grant project was ¥500 million, ¥350 million of which has been allocated to the core project of building the plaza and historical road preparation (ex.Kyo-machi Street), and ¥150 million to promoting the project. This presents a once in a lifetime opportunity to invest in revitalising the town. Sado City is collaborating with our team, which included an industrial designer, civil engineer, and a specialist in research and planning of cultural assets, with the aim of developing tourism and being listed as a World Heritage Site, under the guidance of the Agency for Cultural Affairs.

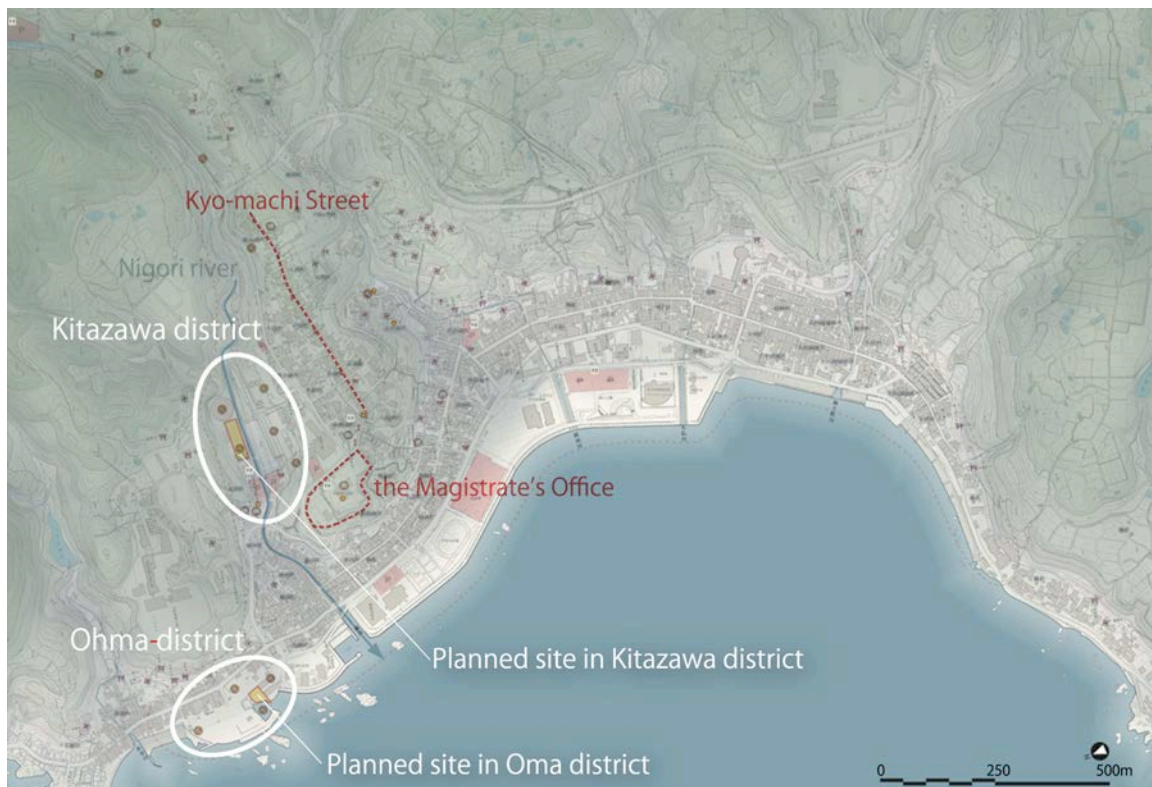


Figure.3 Map of Aikawa, showing Kyo-machi-Street (the main street in the pre-modern era) along the ridge, and the Magistrate's Office, on the edge of the tongue-shaped land formation. The modern mining facility was built along the Nigori River in Kitazawa district, in the valley on the north side of the ridge.

3. Design Process

3.1 Interpreting the site and unearthing information

The first step was to collect any and all historical material related to the former Sado Mine facilities, and to conduct a field survey. The Golden Sado Company had retained a lot of information, and with their cooperation we were able to obtain a large number of documents, such as maps and photographs. At the same time, we sought the support of the Sado City Board of Education, Agency of Cultural Affairs, and the prefectural Administration Division of the World Heritage Inscription Promotion office. We then decided to begin excavation on the site as soon as possible, and made a great effort to understand the ruins we uncovered.

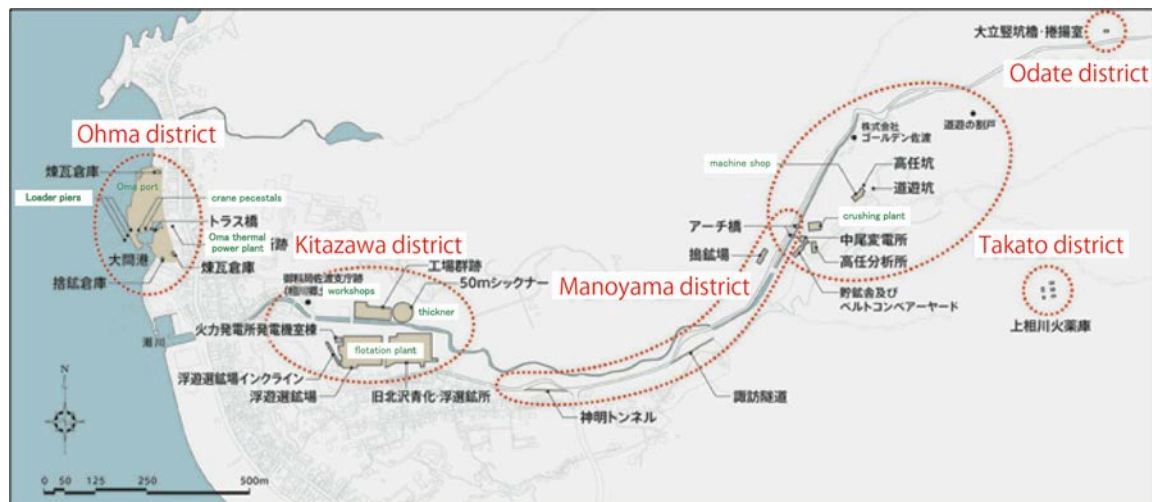


Figure.4 Former Sado mining facilities.



Figure.5 Kitazawa district, in Aikawa. In the centre of the photo is the thickener site. At the bottom of the photo is the roof of the former power plant. Hidden by the trees on the right-hand side is the ore flotation facility (February 2008).



Figure.6 Looking out over the ore flotation facility from the Kitazawa district plaza. The building's concrete shell is still clearly visible (April 2008).



Figure.7 Old photo of Kitazawa district. On the left hand side is the ore flotation facility. The photograph shows that there used to be a factory complex on the site where we planned to build the plaza [3].

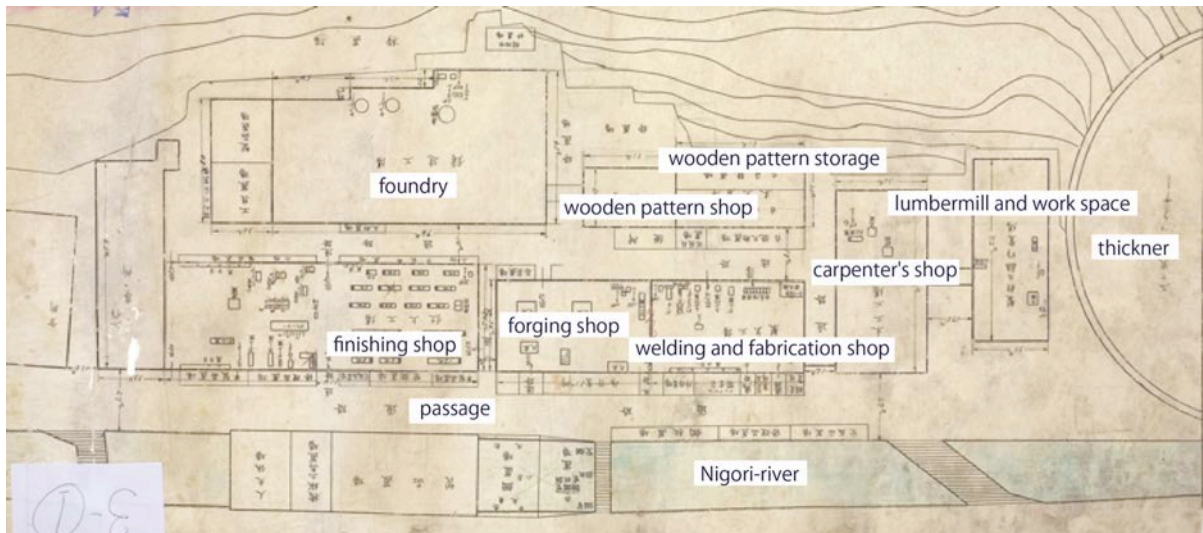


Figure.8 [Maintenance Facility Machine Layout] The foundries, carpenter shop, dimensions of the buildings and passages even the names of the machines are labeled. The picture has been rotated 180 degrees for convenience (1942) [3].

The presence of mineral processing and refining complexes in the Kitazawa district was confirmed by two studies, “The Modern Japanese Heritage Survey (1990)”, using a grant from the Agency of Cultural Affairs Government Subsidy Project, and “Niigata Modernized Heritage Survey (1992-1993)”, commissioned by Niigata prefecture. However, the layout of the former maintenance facilities were unknown, as it ceased operations in 1952, and Aikawa High School constructed a swimming pool in its place in September 1964. In 1988, the pool was closed due to a water leak, and since January 1999 has been a sealed vacant lot, leaving the both the scale and contents of the site a complete mystery.



Figure.9 Old photograph of Kitazawa district, showing the pool on the planned site for the plaza. There is also a golf course in front of the ore flotation facility (1985, Source: Aikawa Town Acquisition lore exhibition pavilion).



Figure.10 Excavation and research in Kitazawa district. The floors and walls of the facilities and cupola furnace have been uncovered (July 2008).

From old photographs, we understood that right in front of our eyes, buried in the sediment and weeds, were the foundations of many buildings and factories. While the excavation preceded little by little, one old document was discovered that provided a big clue. This document, from January 1942, was the [Maintenance Facility Machine Layout]. It was plotted by the Mitsubishi Mining Co., Ltd. (now Mitsubishi Material Co., Ltd.), and recorded the arrangement and dimensions of the buildings in detail. Unfortunately, in the area where the pool was, the remains had been destroyed and could not be discovered. However, in the other areas, the layout plan lead us to find the factory complex's concrete walls and pillars, floors paved with bricks, and a cupola furnace, amongst others (Figure 9, 10).

Meanwhile, at the Oma-district which was used for a port, no excavation was conducted. However, old photographs gave a sufficient feeling of how active it was used to be. In public design, because it is neither a temporary exhibition nor an artwork, it is indispensable to be able to interpret the surrounding area. For this project, the clues were right in front of us, and both the excavated ruins and the surrounding landscape left an overwhelming impression.

3.2 Design Concept and Plan

Based on the historical documents, excavations and 1942 factory layout plan, we decided on a concept based around the former factory complex being used as a plaza. The passage between the factories would be rebuilt as a walkway, so that visitors could have an authentic experience of the landscape emerging right before their eyes. The intention was to give tourists the same raw impression that we felt the first time we saw the site. Of course, the excavated ruins were to be shown as authentically as possible (Figures 11, 12 and 13).

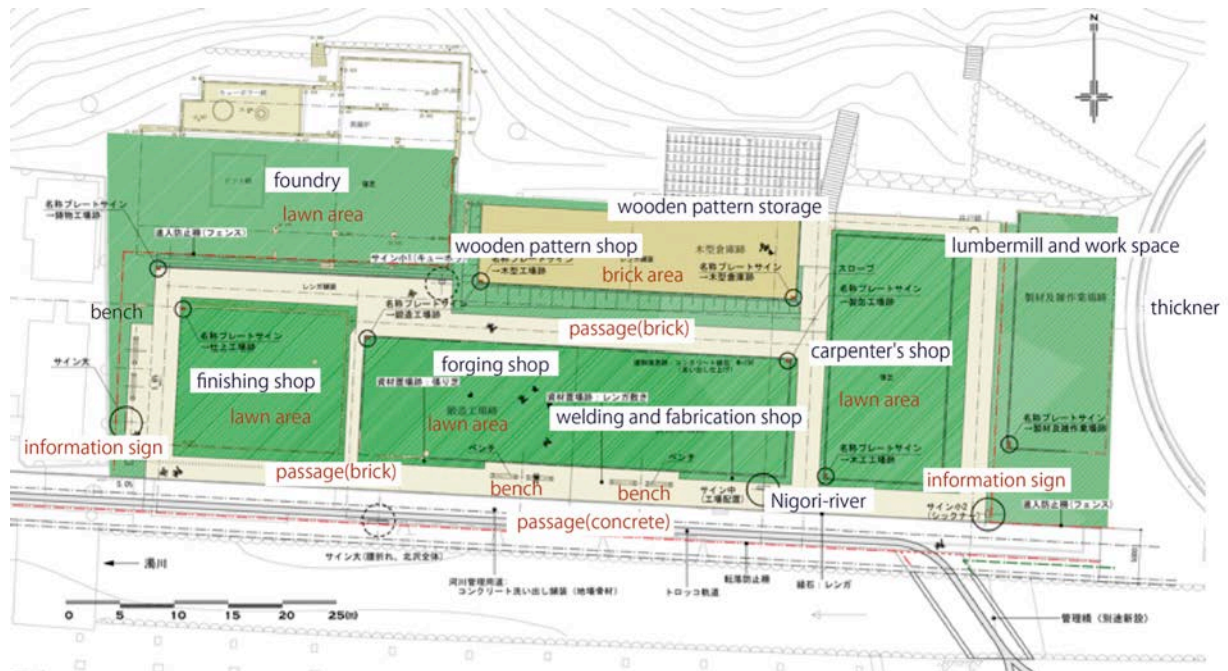


Figure.11 Plan for the plaza on the former Kitazawa district maintenance facility site. We proposed to follow facility's existing layout, with the passages serving as a pathway for visitors.



Figure.12 Model planned Kitazawa district plaza. We aimed to have a unified space by incorporating the ruins into plaza.

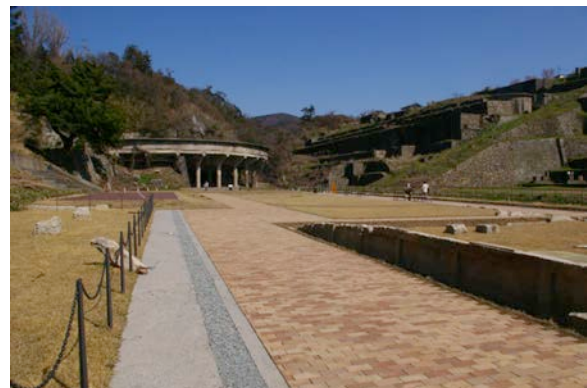


Figure.13 Completed the plaza on the former Kitazawa district maintenance facility site (April 2010).

Meanwhile, in Oma Port, the design concept was based around the idea of “sunset”. A hub for mineral and coal shipments once connected to the rest of Kitazawa District by trolley tracks, the image of the harbor, with its podium cranes, loader bridge piers and truss bridge, would be cast in silhouette as the sun set over the sea of Japan. To make the most of this view, a walkway, a bench by the water and a small plaza were included in the design.

Next to the walkway, we placed three benches for viewing the sunset, two oriented in the directions of the autumnal and vernal equinox, and one between them looking towards the summer solstice. The walkway itself was simple, being two metres wide and paved with scrubbed concrete (Figures 14, 15 and 16).



Figure.14 Plan for the Oma Port plaza.



Figure.15 Completed plaza at Oma Port (June, 2012).



Figure.16 The sun setting on the Sea of Japan, with the ruins of Oma Port in silhouette.

3.3 Key points in developing areas surrounding cultural assets

Below, I would like to summarise some of the key points I learned from the design and development of the area surrounding the cultural assets of the Sado Mine facilities.

a) The designer's ability to understand and consider the historical context

With cultural assets, it is necessary to research and understand the local area, and cooperate with the relevant specialist organisations. At the same time, it is important to obtain primary sources of information as soon as possible, and recognise its immense value. In addition, a designer must consider how to draw out the value and appeal of a cultural asset. In this project, in order to make full use of the site's appeal, we focused on making the plaza as simple as possible.

b) The importance of landscape design and choosing material

When you have few design elements, the role of industrial design becomes very important because it will stand out even more. The team's industrial designer created fences that blended perfectly with the landscape of both sites. (Figure 17) Their presence is not intrusive from a distance, and they do not lose its effect no matter how close you get. As for the benches, they have a dynamic design that plays an important part in the overall effect. We also paid great attention to the design of the information signs that would be spread around the sites.

The material used is another important element. For the walkway between the factories, I considered a range of materials and finally decided to use brick. I deemed this to be the most appropriate material to complement the ruins, many of which were made up of rotten concrete structures and aged stone masonry. However, even amongst bricks, there are many types of colours, textures and images available. In this case, a standard, uniform brick would not be appropriate.

Therefore, I selected a tumble brick without corners and edges that fit in with the soft texture, colour and tint of the soil and aged buildings. We made the final decision while performing sample checks in the field. In order to give the impression of the brick being arranged in a random-fashion, a detailed plan was drawn up, and the construction was supervised on site. (Figure 18) For the façade of the ruined building, we performed a number of mock-ups until we finally chose a scrubbed, finished concrete made using a base of aggregate Ryotsu blue-stone, sourced from Sado. In addition, for the signs that would be embedded in the building, we used traditional Aikawa pottery produced by a local kiln to make a Mumyoiyaki plate signs with unique texture and colouring. (Figure 19) I believe that having an eye for detail and carefully selecting the materials contributes significantly to the overall impression of the facility.



Figure.17 The fence and sign does not intrude on the view of the ruins.

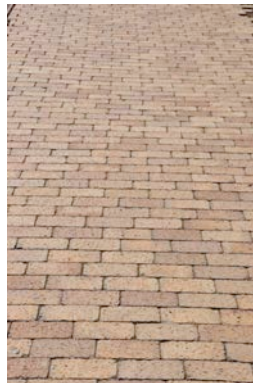


Figure.18 Tumble brick, soft in appearance and nice in texture.



Figure.19 Plate sign made in local kiln (Mumyoiyaki).

c) The Need for Techniques to Conserve Cultural Assets

For developing cultural assets, it has also become necessary to have conservation techniques and knowledge. In the ruins, to conserve the floor surface, we laid a 50mm thick layer of sand and finished it with a layer of bricks and sodding. As a result, it is at least 250mm higher than it used to be. In order to safeguard the finished surfaces such as the exposed concrete walls and pillars, we employed a weather protection treatment. Throughout the conservation management process, the design policy was to maintain the ruin's original atmosphere as much as possible. Of course, as we progressed we also had to consult with the Agency of Cultural

Affairs to draw upon their expert opinions. In addition, we took into consideration technical matters, such as installing a hydraulic pipe to provide subsurface drainage and protect the site from water damage.

In summary, for the design of the environment surrounding cultural assets, it is necessary to have knowledge and understanding of the site, the ability to reflect and integrate all aspects of the site and surrounding environment, skill in selecting appropriate materials, and good communication across the field and region. However, I suppose these abilities are not only required in develop cultural assets, but are necessary for all those whose expertise lies in designing complete environments.

4. Conclusion -The Value and Meaning of Design in Areas Surrounding Cultural Assets

4.1 Culture as the Heart of Local People and Design

In Japan, people have developed advanced industry and culture in a restrictive natural environment, with around 70% of the terrain being mountainous area. In Sado Island, around 83% of the land is forest, wilderness or undeveloped land, 15% cultivated fields, and only about 2% residential. Each town has built its industries and living environments within a limited space, and the relationship between the layout of the urban areas and the terrain is inseparable. However, while people's lives are enriched by civilisation, some elements of culture are lost in the process. Nowadays, due to Japan's aging society and declining birthrate, areas without social and economic worth are not considered valuable, and in many cases idle structures and facilities are deemed to be a public nuisance.

On the other hand, culture develops from daily life, individuals and groups, as well as living spaces, including the natural environment, and then enters the hearts of local people.

In this project, we utilized public space design to repurpose abandoned sites and structures and expand their cultural value, in order to improve the lives and futures of the people living in the area. Unlike in Europe, where urban planning is based around the idea of creating a space artificially, the plazas we built were centred on places that developed spontaneously, through people's daily lives. This is a very Japanese style. In order to show respect for people's ancestral lands, as well as to consider those who would live in the towns in the future, we could not use designs based on the fleeting fashions of the era, such as theme parks or event venues, but something that would be of ongoing value to the town. In other words, during the design process and material selection, we collaborated with the local community to share their goals and values.

4.2 The future of the public space where the cultural value is extended to

The design of developing the environment surrounding cultural assets is important to communicate the site's value to visitors in as effective a manner as possible, without detracting from its original appeal. It is essential for the design to make the most an asset's value and appeal, as well as encouraging people to share it. In this paper, we have used two specific examples to explain the relevant background, method, design process, overview and expectations of the design for the open space in future cities that we will live in.

We believe that both spaces were successful, as we were able to create attractive plazas that did not lose any of the impact and value of the original scenery. This was achievable because we followed a simple plan based on

historical information to carefully select materials and sculpt the landscape, which along with the design enhanced the site's appeal.

In improving the environment surrounding a cultural asset, the most important thing is that it will enrich the lives of the local people, and they will feel proud to live in an area that is vibrant and prosperous. They should be more than just cultural assets, but the heart and soul of the local area. It is hoped that, over time, a culture would develop where the community would begin to feel a sense of ownership over the sites. With the Sado Mine plaza project, if the liveliness and activity of the mining-boom era were to return to the area, the endeavour will be considered a success.

On a final note, I would like to thank all the people who have been involved with the project and made it possible. I would also like to send my warmest regards to the people of Aikawa and Sado, and wish them well for the future.



Figure.20 People enjoying themselves at the newly built plaza in Kitazawa (April, 2010).



Figure.21 Completed the plaza on the former Kitazawa district (October, 2010).



Figure.22 Illuminated the ore flotation facility in Kitazawa district (October, 2010).

5. References

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- [4] In 1962 Mitsubishi Metal Mining Co., Ltd. (now Mitsubishi Material Co., Ltd.) started the tourist business Sado Historical Gold Mine, which became Golden Sado in 1975. They now operate Sado Gold Mountain and maintain the mining facilities.
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