

Iwami Ginzan Silver Mine (Japan)

No 1246

*Official name as proposed
by the State Party:*

Iwami Ginzan Silver Mine
and its Cultural Landscape

Location:

Ohda City,
Shimane Prefecture

Brief description:

To the south-west of Honshu Island, just inland from the Sea of Japan, is a cluster of silver-bearing mountains, rising to 600 metres and interspersed by deep river valleys. The nominated sites include the archaeological remains of large-scale mines, smelting and refining sites and mining settlements on Mount Sennoyama and Mount Yôgaisan worked between the 16th and 20th centuries, parts of *Kaidô* transportation routes across the undulating plain at the foot of the mountains used to transport silver ore to the coast, and port towns from where the ore was shipped to Korea and China. The high quality of the silver resulting from the use of advanced cupellation techniques, and the quantity of silver mined, meant that at the height of their activity in the 16th and 17th centuries, the mines contributed substantially to the overall economic development of Japan and south-east Asia, and prompted the mass production of silver and gold in Japan. The mining area is now heavily wooded.

Category of property:

In terms of the categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a *site*. In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (2 February 2005, annex 3) paragraph 47, it is also a *cultural landscape*.

1. BASIC DATA

Included in the Tentative List: 6 April 2001

International Assistance from the World Heritage Fund for preparing the Nomination: No

*Date received by
the World Heritage Centre:* 4 January 2006

Background: This is a new nomination.

Consultations: ICOMOS has consulted its International Scientific Committee on Historic Gardens – Cultural Landscapes and TICCIH. IUCN has provided an evaluation of the natural attributes of the site.

Technical Evaluation Mission: 15-21 October 2006

Additional information requested and received from the State Party: ICOMOS sent a letter of request for additional

information on 7 December 2006. The State party submitted additional information on 12 January 2007.

Date of ICOMOS approval of this report: 21 January 2007

2. THE PROPERTY

Description

The nominated property is a serial nomination of fourteen sites that demonstrate three aspects of silver mining production and transportation carried out on and near Mount Sennoyama and Mount Yôgaisan between the 16th and 20th centuries. The sites consist of archaeological remains of mining and processing of the Iwami Ginzan mine, their associated administration, settlements, and fortresses, shrines, parts of *Kaidô* transportation routes to the coast, Iwami Ginzan *Kaidô* Tomogauradô and Iwami Ginzan *Kaidô* Yunotsu-Okidomaridô, and three port towns, Tomogaura, Okidomari and Yunotsu, from where the ore was shipped. The nominated areas are joined together by the buffer zone. The nominated area extends to 442 ha and the buffer zone 3,221 ha.

Mount Sennoyama and Mount Yôgaisan are part of a chain of mountains rising to between 400 and 600 metres, interspersed with deep river valleys, set around 6 km inland from the Sea of Japan on the west of Honshu Island, the main island of Japan. Several of these mountains had deposits of silver and the seams began to be exploited in the 16th century by a merchant, Kamiya Jutei, working under the protection of the powerful Ôuchi family, a feudal clan who ruled the Iwami Region.

For two centuries, the exported silver had a substantial effect on the economy of Southeast Asia and led to the mass production of both silver and gold in Japan. Such was the importance of the silver mine, that there were several insurrections between clans fighting for its control in the 16th century. In the mid 17th century the Iwami Ginzan mine along with others was placed directly under political control, fenced and guarded.

In its heyday, over 150 villages and towns housed workers for the Iwami Ginzan mine; for most of these only archaeological evidence remains. Refined ore from the mines was transported to the coast along two track ways between the undulating foothills. Three ports were developed to handle the export of the ore to Korea and China and high quality luxury goods, such as Chinese porcelain, timber and spices were imported.

After the 1640s the mines started to decline as deeper and deeper seams had to be exploited, necessitating expensive water drainage, making production less profitable. From a highpoint of 1,000 to 2,000 kg production annually in the 17th century, by the mid 19th century only around 100kg annually were being produced. The mines finally closed in 1923. Since then the area has become largely covered in forest, some natural, part semi-natural and part bamboo, the latter reflecting the location of former settlements. No structures remain on the mountains from the 16th and 17th centuries, but in recent years archaeological excavations of around 1% of the site have revealed evidence for houses, administrative buildings and smelting sites.

The nominated property consists of remains and evidence for several separate facets of the mining and transportation processes:

- *Archaeological remains of:*
 - Iwami Ginzan mine shafts and pits
 - Smelting and refining sites & workers' housing
 - Ômori Ginzan settlements
 - Sites of three fortresses
- *Shrines, shrine sites, and tombstones*
- *Two Kaidô transportation routes to the coast with wayside shrines:*
 - Iwami Ginzan Kaidô Tomogauradô
 - Iwami Ginzan Kaidô Yunotsu-Okidomaridô
- *Three Port Towns:*
 - Tomogaura
 - Okidomari
 - Yunotsu

These are considered separately:

- *Archaeological remains of:*
 - Iwami Ginzan mine shafts and pits

Within the mining area known as Ginzan Sakunouchi, traces of digging cover almost the entire area of Mount Sennoyama. There is evidence of some 600 mine shafts and pits scattered around the wooded upper slopes of Mount Sennoyama and Mount Yôgaisan. These have all been mapped but not all are marked or in areas where the forest remains have been cleared. These remains can be broadly categorized into two types: traces of open pit digging and mine shafts dug into the ground. The former are distributed mainly in the area from the mountaintop of Mount Sennoyama to the valley to the south, whereas the latter can be seen almost anywhere in the valley.

Large-scale mine shafts that were created at the peak of the prosperity of the Iwami Ginzan Silver are Ôkubo-mabu and Kamaya-mabu on the south slope of Mount Sennoyama and Ryûgenji-mabu in the northern slope. However, most of the other mine shafts are small with an entry measuring on average 90 cm in height by 60 cm in width.

Underground archaeological techniques have not yet been used to investigate these shafts and determine the progress of mining from the earliest extraction pits. It is not entirely clear how far the mining 'landscape' extends; the area is now heavily wooded, with trees invading previously worked areas. From the early 17th century the mining area was enclosed with wood fences over a length of 8 km with up to 10 guard stations. In the mid-17th century, the wood fences were replaced by pine trees. This boundary has not so far been systematically investigated.

- Mineral deposits

The precise nature of the minerals at the Iwami Ginzan mine are not clear. Investigation elsewhere suggests that

they may, in part, be linked to the Kuroko 'black ore' deposits. Clearer information is needed on the deposits worked, and the factors leading to the occurrence of native silver which provided the principal source of the metal prior to the introduction of cupellation.

- Smelting and refining sites & workers' housing

Ore dressing, smelting and refining were carried out in workshops that were constructed on flat man-made terraces very near the mines. Over 1,000 of these have been identified, often accompanied by remains of stone walls and drainage conduits. Workshops were next to the living quarters – the two constituting the unit of production.

In an area near the mountaintop, known as Ishigane Fujita, a few of the 16th to 18th century settlements have been excavated. Some of the flat sites display land divisions measuring 8–10m in width and 20m in depth that were aligned facing onto a 2m wide street. The furnace sites show a simple structure of a depression in the earth floor with a diameter of 1m or less. This type of furnace is called "earth floor type", which is the typical style of furnaces that were used for smelting and refining in Japan. Among the excavated artefacts, is an iron pan that was used in the refining process and cupellated silver and lead, found in Ginzan Sakunouchi, which show that the cupellation-based refining method was used in the Iwami Ginzan mine. This method maximised the amount of silver recovered from the ores.

Excavation at Miyanomae, at the northeast end of Ômori-Ginzan (see below), has revealed remains of streets and buildings dating back to the period between the late 16th and early 17th century. In one building 24 furnaces in a small floor space indicates its use as a refining workshop.

- Ômori Ginzan settlements

To the north of Mount Sennoyama, Ginzan town was developed in the 16th and 17th centuries inside the fenced area of the mine. It provided administrative buildings and housing for merchants and some miners. Subsequently Ômori town was built in the 17th century immediately outside the fenced area. The Ômori-Ginzan area remains inhabited by local citizens. Two thirds of all Ômori-Ginzan buildings were lost in a fire in 1800, although many were reconstructed, notably the House of the Kumagai family and the Daikansho Site, the administration office where the magistrate governed the Iwami Ginzan Silver Mine from the 17th to the mid-19th century. The latter was largely dismantled in 1879 but the gatehouse and attached row houses remain.

Ômori has more historic fabric than Ginzan. Ginzan only retains a modest collection of pre-1926 buildings (i.e. roughly the period of mining), and some from the Edo period (pre-1868). In terms of the peak period for the mine (1530s-1640), there is insufficient data to suggest how many buildings might have survived.

- Sites of three fortresses

In order to protect the new mines in the first half of the 16th century, three fortresses were built on three separate peaks, Yataki-jô and Yahazu-jô to the west of the mine, and Iwami-jô to the north. In the 17th century the silver mine

was fenced and the fortresses fell out of use. Stone terraces and dry moats remain, although the forest has now largely grown over the sites.

- *Shrines, shrine sites, and tombstones*

Four shrines and 63 religious sites, most with no remaining buildings, have been identified in the mining area, remnants of the “100 silver mine temples”, that were said to exist at the peak of the prosperity of the mine. The Sahimeyama-jinja, which enshrines the guardian deities of the mine, is located near the entrance to the mine area in Mount Sennoyama. It was constructed in 1434 and re-built in the early-19th century. It is still used for annual festivals celebrated by local citizens in April and September.

Rakan-ji Gohyakurakan in the Ômori Area is a religious site which enshrines stone statues of Buddha and *rakan* in three alcoves carved in the bedrock, with tripartite Buddha images in the central alcove and 250 *rakan* images each in the right and left alcoves. It was completed in 1766. The *rakan* statues and other stone images are works of the Tsubouchi Family, a school of stonemasons who resided in Fukumitsu Village.

As mining ended some 80 years ago, the main reasons for worship at the shrines such as Sahimeyama have ceased. There are however a few resident priests, and specific songs related to mining survive in the memory of some people, although the extent to which these are being passed on to younger generations is not clear.

In addition, near to the shrines, are a number of cemeteries, with over 6,000 tombstones and memorial monuments built for those who died in these areas.

- *Two Kaidô transportation routes to the coast with wayside shrines:*

- Iwami Ginzan Kaidô Tomogauradô
- Iwami Ginzan Kaidô Yunotsu-Okidomaridô

In the early 16th century as the new mine developed so too was the transportation route some 7.5km in length to Tomogaura port on the coast. At the end of the 16th century Tomogaura was overtaken as a port by Yunotsu further to the south, and a new route, 12km in length was established. Half a century later again Okidomari immediately across the estuary from Yunotsu was developed and a branch of the route put in place to serve this new main port.

Both routes continued to flourish until the mid 19th century when a new route to Nima Town was established (not part of the nomination) and the rail road begun to take traffic. The old routes continue in use as pedestrian or vehicle routes. Sections of *Kaidô* which have been damaged by subsequent works have not been included as core areas, although the alignment of the routes is included within the buffer zone. The routes are dotted with stone stupas, small shrines, small Buddha halls, etc., which were built by people who passed along the route, or by local citizens praying for safety.

- *Three Port Towns*

The three ports that served the silver mines seem to have been existing ports that were developed to take extra trade. Tomogaura, then Yunotsu and finally Okidomari were in turns the main ports for export of silver and import of luxury goods.

- Tomogaura

The port has mooring devices on the south coast that were carved out of the rock cliff. The sandy beach at the inner end of the harbour is the place where silver ore and silver were loaded onto ships.

Rectangular land divisions, developed in stepped platforms on both sides of the street still remain, now with about 20 wooden houses standing side by side. A place that was used for temporary storage of silver ore still survives as well as the site of a checkpoint to watch over people and goods. There are a handful of Edo buildings and two from the Meiji. The oldest two buildings are from 1854. Seven out of 29 buildings date from before 1923.

- Okidomari

During the approximately 40-year period in the latter half of the 16th century when the silver mine was under the rule of the feudal clan, the Mōri Family, the port served not only for the shipment of refined silver but also as the base for marine troops of the Mōri Family.

The settlement retains the rectangular land divisions that date back to the 16th century with groups of buildings such as wooden houses and storehouses. There is one building from 1526, a number from the Edo period, and a couple from the Meiji period. Sixteen out of 24 buildings date from before 1923.

- Yunotsu

Currently the buildings that form the townscape consist of some pre-19th century buildings, and 19th and 20th century constructions. Many of the houses of powerful merchants who made their fortune in the cargo shipping business, were found on the western section of the valley, close to the port. Four temples constructed after the 14th century are located at the ends of small valleys that extend from the main valley to the north and south. A number of the shrines which currently stand along the main street used to be located on slopes in the background of the town until they were relocated in the early 18th century.

History and development

According to the dossier, although there is some evidence to suggest that the silver seams were known in the 14th century, the Iwami Ginzan Silver bearing seams were ‘discovered’ in 1526, and almost immediately developed by Kamiya Jutei, a powerful merchant of Hakata, then the largest trading port in Japan. Jutei operated under the protection of the Ôuchi family, a feudal clan who controlled the Iwami region and whose wealth was based on trade with China and Korea. Around 1533 the more efficient ‘cupellation’ smelting technique was introduced to the mines possibly from Korea, and this dramatically increased the output of the mines to the extent that the in the late 1530s, the amount of silver which was offered as

the tribute to the Ôuchi Family increased from 16 to 80 kg per year.

In the 1530s and 1540s, the Ôuchi family's authority of the silver mines was repeatedly challenged by neighbouring land owners who fought for control of the highly profitable mines. The three fortresses around the mines date from this time. In the 1550s the Amago family took control for ten years followed by the Mōri family in 1561. The Mōri family established their vassals in the surrounding area and created two new routes to the newly developed ports of Yunotsu and Okidomari.

After a series of national wars over the next twenty years, Tokugawa Ieyasu, became the ultimate victor. In 1600 he took over the seat of power, establishing the Tokugawa Edo Shogunate and expropriated gold mines and silver mines throughout Japan. Okubo Nagayasu was appointed to administer the mines and developed new shafts and increased silver production. The mine business was run by mining directors called *yamashi*, who paid silver as commission to the Edo Shogunate. Yasuhara Dembei, the *yamashi* who operated the Kamaya-mabu and other mine shafts under contract with the Tokugawa Family around 1600-1602, paid 13,500 kg of silver in one year to the Edo Shogunate. The digging of silver ore was carried out by miners who were employed under contract to the *yamashi* although few details are available to suggest whether miners were indentured or self regulated.

The early 17th century was the heyday of the mines with as many as ten thousand people employed. The Dutch and English furthered international trade and within Japan relatively settled times led to the flourishing of towns which further increased demand for silver. Silver production was operated by the private capital of the *yamashi*.

In the mid 17th century administration of the silver mine and its surrounding area came under the control of a magistrate deployed by the central national government, the Edo Shogunate, and this further increased output. Few specific silver production figures are provided in the nomination dossier and no quantitative information is available to provide a clearer impression of the impact of the mine on the economies of the wider region.

The silver production at the Iwami Ginzan Silver Mine reached its peak in the 1620s–1640s and started to decline gradually after that. As mine shafts were dug deeper into the ground, it became more difficult to work and more costly to drain out water, making silver production less profitable. In 1691, 63 of a total of 92 mine shafts were closed; in 1729, 74 of a total of 129 mine shafts were closed; and in 1823, 247 of a total of 279 mine shafts were not in operation. The silver production that had averaged 1,000 to 2,000 kg annually in the late 17th century decreased to 100 kg or so in the mid-19th century.

After the Edo Shogunate fell in 1868, the Iwami Ginzan Silver Mine was privatized in 1869 by the new national government. In 1887, a private company named Fujitagumi resumed operation of the silver mine and renamed it Ômori Kōzan (Ômori mine). In 1895, a refinery was constructed at Shimizudani, introducing western technology, but it was closed after little more than one year. In its place, another refinery was constructed at Kōjidani at the western foot of

Mount Yōgaisan, where smelting and refining, mainly of copper but also of gold and silver, was carried out. However, because the price of copper dropped and cheap copper started to be imported after World War I, the mine was forced to close in 1923. Later in 1942, an attempt was made to reopen the mine to meet the demand for metal during World War II, but this failed due to damage from a typhoon in 1943.

Details of the history of the mines in relation to its political context cannot be matched by equivalent detail for the history of technological transfer to the rapidly developing mines in Japan. The transfer of the 'cupellation' to other silver mines in Japan is noted in the dossier but little is available on the impact of other mining and smelting techniques. Evidence for how cupellation was transferred to Japan, how it spread within Japan, the origins of this technique as used in Japan, and its relationship to the cupellation technique known in the west since antiquity, are not available.

The dossier does not relate the technology to archaeological evidence – although as yet very little of the mines have been explored. Thus it is not possible to detail neither how technology developed within Japan in its long period of isolation from Western influences nor whether this was pioneering, as suggested in the dossier. Nor can the history of Iwami Ginzan's role as perhaps the major supplier of newly mined silver in Japan and its impact on its commerce and that of its neighbours, be set down. There appears to be strong evidence that Japanese silver exports in the 17th century increased to compensate for the decline of those in Latin America, but supporting evidence is unavailable.

3. OUTSTANDING UNIVERSAL VALUE, INTEGRITY AND AUTHENTICITY

Integrity and Authenticity

Integrity

Surveys undertaken have shown that all the silver mining sites are within the core zone and there is no evidence in the buffer zone.

The core zone boundary around Ômori-Ginzan is drawn tightly around the town area and does not extend to include the forested valley slopes. The distinctively linear town stretching along the valley floor has developed because of the flanking ranges, which are a dominating feature of the town. Viewed as a landscape, it is hard to consider the town without including the flanking ranges. Accordingly, ICOMOS considers that consideration should be given to including the flanking ranges, to the ridgeline either side, as part of the core area.

The core zone boundary of the harbour at Yunotsu excludes what would have presumably been the historic landing area, now modified, as well as the harbour itself. This boundary treatment contrasts with the other port towns. ICOMOS considers that this issue should be subject to further consideration with a view to including the inner harbour to the high water mark, as well as the presumed historic landing area.

The built fabric of the towns display moderate integrity in terms of the significant period related to mining (1526-1923). Some towns are more intact than others: the Ōmori section of Ōmori-Ginzan displaying much higher integrity than the Ginzan section and Tomogaura for example. In terms of the peak period for the mine (1530s-1640), there is insufficient data to draw many conclusions. Some buildings remain from this period, some are early 19th century reconstructions of earlier buildings lost, for example by fire around 1800, and many seem later. In the case of Tomogaura, there are no buildings earlier than 1854.

ICOMOS considers that the integrity of the silver mining sites is moderately intact; the current boundaries do not fully enclose all the essential elements and settings of the ports and settlements and in the settlements many of the building post-date the period when the mines were active

Authenticity

The silver mining sites (mining/smelting/refining) are largely archaeological sites and are authentic. The transportation routes express their function. They continue in use as pedestrian or vehicle routes. It is noted that those sections of the *Kaidō* which have been damaged by subsequent works have not been included as core areas, although the alignment of the routes are included within the buffer zone. Some sections of the *Kaidō* display apparently early design features and materials such as drains or steps, and these have a high degree of authenticity. However, other sections have been modernised, such as with bitumen paving, and the authenticity in terms of form, design, materials and feeling is reduced.

The ports themselves, (as opposed to their adjoining towns) express their function. There are some features such as the carved stone mooring points which are believed to be very early. There have also been modern changes such as the construction of concrete wharfs and boat ramps which reduce the authenticity in terms of form, design and materials.

The settlements, including the port towns themselves, again express their function but also in varying degrees their form, design, materials, location and setting.

When it comes to individual buildings within the towns, again their state of conservation varies and so too their authenticity. The best examples appear to display a high level of authenticity, such as the Kumagai House in Ōmori-Ginzan or the Ebisu Shrine in Okidomari. But there are other examples where the authenticity has been diminished.

The castle sites are largely archaeological sites although some earthworks are discernible (e.g. moats and terraces). These sites are authentic.

Overall ICOMOS considers that the archaeological sites have authenticity but that authenticity is patchy for the transportation routes and within the ports, where many of the structures post-date the silver mining period.

Comparative analysis

The dossier provided information on other mining sites in Japan and other mining sites already inscribed on the World Heritage list. What was not provided was any comparison with other mining sites outside Japan and in the same geo-cultural area in order to understand more fully the links between the Iwami Ginzan site and those in Korea and Central Asia. A request to the State Party for further information on mines in south-east Asia yielded information on mines in China, Korea and further west in Asia.

In China the development of silver mines is thought to have begun during the Han Dynasty (206 BC – 220 AD). In the Song Dynasty (960 AD – 1279 AD) silver mines were in operation in Jiangxi, Fujian, Henan, Zhejiang, Hunan, Guangdong, and Sichuan Provinces. During the Yuan dynasty new mines were developed in Shandong and Hebei Provinces. The adoption of a silver standard system in the Ming Dynasty (1368 AD – 1644 AD) caused a surge in domestic demand for silver, prompting the development of mines in Hebei, Guangxi, and Yunnan Provinces. There is some evidence for the use of cupellation techniques in China – but different from those in Japan.

It is suggested that by the 16th century many mines were becoming exhausted and thus there was a market for silver in China from Japan and Central and Southern America. Lack of research into the mines in China makes it difficult to draw comparisons or to analyse exchange. However it is suggested that there was no transfer of technologies between China and Japan.

In Korea, silver mines were operated in Hamgyong, Chagang, and Pyeongan Provinces during the 16th century. Hamgyong Province is where it is suggested that the type of cupellation method introduced to Iwami Ginzan Silver Mine originated. The amount of silver produced from those mines was limited and no match for Iwami silver smuggled into the country, an issue of grave concern to the Yi dynasty (1392 AD – 1910 AD), according to historical sources. There is no sign that the Japanese cupellation method was brought back to the Korean peninsula during the 16th and the 17th centuries.

Mention is made of silver mining in Central Asia where large quantities of silver were mined for coins. It is said in the supplementary information that there is no evidence for silver mines in Central Asia. ICOMOS is aware that mines do exist, although few have been investigated.

Mention is also made of other mines in south-east Asia such as in northern Myanmar, where the Bawdwin Mine, Southeast Asia's richest silver mine, was situated. Silver produced from Bawdwin amounted to three tons per year on average during the 15th through 18th centuries. The methods used in silver mining and smelting in this region appear to have come from Yunnan, China.

The complementary research has shown that while silver produced from the Japanese mine had a notable impact on East Asian trade, the principles and techniques developed and used at Iwami Ginzan Silver Mine appear to have had no influence on mining and smelting activities in other parts of Asia. There is thus no evidence for extensive interchange of ideas.

What has not been provided is more evidence from within Japan to enable a better understanding of the way technology transfer was developed and whether this was exceptional, and on the effect of the Iwami-Ginzan silver mines in Japan and on trade with Europe and its relationship with Latin America. It is thus difficult to evaluate the impact the mines had within Japan and across the world.

Justification of the Outstanding Universal Value

The State Party considers that the Iwami-Ginzan Silver mines and their cultural landscape are considered to have outstanding universal value as they:

- produced a large amount of silver in the 16th and 17th centuries, and triggered the mass production of gold and silver in Japan through the spread of its mining techniques to other mines throughout Japan;
- exerted significant influence upon the history of the exchange of goods and communications among civilizations, not only between the nations of East Asia but also between East and West, reaching as far as Europe;
- contain archaeological sites that illustrate how the silver production was begun in the 16th century by applying a cupellation refining technique that had been traditional in East Asia and show how it evolved into a system of labour-intensive small businesses that carried out the full sequence of processes from digging to refining, succeeding in the large-scale production of high quality silver, in an environment now covered with mountain forests and bamboo groves; and,
- demonstrate a land-use system unique to the silver mine and which fully represents the entire scope of the silver mine operations, from silver production to shipment that continued for nearly 400 years from the early 16th century to the early 20th century.

The State Party suggests that the property is not only a “relict mining landscape”, but also in part a “continuing landscape” in which aspects of the original functions of the silver mine operation are still retained in the present lives and livelihoods of the contemporary local citizens.

Criteria under which inscription is proposed

The property is nominated on the basis of criteria ii, iii and v.

Criterion ii: The State Party asserts that during the Age of Discovery, in the 16th and early 17th centuries, the large production of silver by the Iwami Ginzan Silver Mine resulted in significant commercial and cultural exchanges between Japan and the trading countries of East Asia and Europe.

In the broad view, the quest for noble metals was a determining factor for world civilisation. Thus the instance of the Iwami Ginzan Silver Mine can be fitted into this framework. It does not seem, however, that the nominated property is an exceptional case which determined ideas and traditions of an international range. The detailed evidence to

substantiate this has not been produced to justify how the mines exhibit an important interchange of human values on developments in architecture or technology, over a span of time within a cultural area of the world. More work would be needed to establish the precise way in which the silver mines operated as an enterprise and the effect they had on the economy of Japan and on Europe and the wider world.

ICOMOS considers that this criterion has not been justified.

Criterion iii: The State Party considers that the technological developments in metal mining and production in Japan resulted in the evolution of a successful system based on small-scale labour-intensive units covering the entire range of skills from digging to refining. It is further stated that the political and economic isolation of Japan during the Edo Period (1603 to 1868) impeded the introduction of technologies developed in Europe during the Industrial Revolution. This, coupled with the exhaustion of commercially viable silver-ore deposits, resulted in the cessation of mining activities by traditional technologies in the area in the second half of the 19th century, leaving the site with well-preserved archaeological traces of those activities.

In order to justify how the silver mining landscape bears a unique or at least exceptional testimony to a cultural tradition or to a civilization which has disappeared, ICOMOS considers that more detailed research would be needed to show how the mining arrangements at the site were developed and how they reflect an exceptional occurrence of a mining tradition in their geo-cultural area.

ICOMOS considers that this criterion has not been justified.

Criterion v: The State Party considers that the abundant traces of the silver production - such as mines, smelting and refining sites, transportation routes, and port facilities - that have survived virtually intact in the Iwami Ginzan Silver Mine, are now concealed to a large extent by the mountain forests that have reclaimed the landscape. The resulting relict landscape, which includes the surviving settlements of the people related to the silver production, bears dramatic witness to historic land-uses of outstanding universal value.

ICOMOS considers that the mining activities have had a distinctive impact on the landscape and the remains reflect mining, smelting, transportation and associated settlements. However to justify the property as an outstanding example of a traditional human settlement, and interaction with the environment, ICOMOS considers that more research is needed to demonstrate how the mining activities created an outstanding landscape.

ICOMOS considers that this criterion has not been justified.

Criterion iv was not suggested by the State Party. Further research will indicate whether this criterion would be relevant or not.

In conclusion, ICOMOS does not consider that Outstanding Universal Value has been justified or the nominated criteria have been justified.

4. FACTORS AFFECTING THE PROPERTY

Pollution

Pollution is a potential problem. The dossier emphasises the contemporary re-use of spoil from the workings, including smelting slag and, presumably, the tailings from ore preparation. The current levels for lead, zinc and other heavy metals such as cadmium are not detailed. The spoil heaps found on other mining sites may not be present but their contents have been dispersed around the site and do present a potential hazard.

Empty town properties

Although this seems to be an issue for many rural towns in Japan, the empty houses in the four towns are an issue in terms of the ongoing conservation of the towns and the vitality and viability of the communities.

In Yunotsu and Ômori 40 out of 200 houses in each are vacant; in Tomogaura and Okidomari 10 are vacant out of 20 each. In Ômori-Ginzan however, there have been some returning people as well as some leaving – resulting in a balance.

Impact of tree roots on archaeological sites and structures

Current or future forest regrowth could result in damage to archaeological sites and to structures such as retaining walls. Currently this is not perceived as an issue by the management authorities. ICOMOS considers that a further review of this issue should be undertaken to ensure the appropriate management policy is in place for the long term conservation of mining features.

Modern development

Modern changes to the ports such as the construction of concrete wharfs and boat ramps could impact on the authenticity of the port remains.

New motorway

The dossier includes details of a new motorway to bypass Route 9 planned to be constructed partly in the nominated area and partly in the buffer zone of Iwami-jô, Iwami Ginzan Kaidô Tomogauradô and Yunotsu-Okidomaridô.

An environmental impact assessment has been prepared which includes a landscape assessment component. Negotiations will take place to reduce any impact. In the case of the Tomogaura Kaidô, dense vegetation shields views of the proposed road. In the case of the Yunotsu Kaidô, the road will be visible (as the existing road is) however trees have been planted to screen these views. Construction started in 2006. Part of the road will be in a tunnel.

Extraction of clay

In the buffer zone to the south of Ginzan Sakunouchi, a project for the procurement of clay for roof tiles is planned. It is stated that this will respect the constraints in place in the buffer zone to protect the OUV of the nominated site. Consideration needs also to be given to the potential archaeological of the site.

Overhead wires

Overhead wires and electricity poles in Ômori-Ginzan are conscious.

Climate change

No details are given in the dossier about the impact of climate change. However the area is already vulnerable to the impact of heavy rain and coastal erosion – both of which could be exacerbated by climate change. The ports in particular would be damaged by a rise in sea levels.

Risk preparedness

The property is vulnerable to earthquakes, typhoons or heavy rains – all of which could cause land-slides, and damage to trees and buildings.

As a preventive measure, earthquake-proof reinforcements have been applied to buildings at the time of other repair work. Part of the area is designated for coastal erosion control area, in which preventive measures to reduce the risk of flood damage are being taken through construction of erosion-control dams and river infrastructure constructions.

For preparedness against damage from fires to buildings, cisterns are available for use by local people and fire brigades have been organized.

In conclusion ICOMOS considers that the main risks to the property arise from the nature of the archaeological remains and the socio-economic forces which are creating empty town properties. ICOMOS considers that further details need to be provided on future road building programmes.

5. PROTECTION, CONSERVATION AND MANAGEMENT

Boundaries of the nominated property and buffer zone

As set out under authenticity above, ICOMOS considers that the core zone boundary around Ômori-Ginzan is drawn too tightly around the town area and consideration should be given to including the flanking ranges, to the ridgeline either side, as part of the core area.

ICOMOS also considers that at the harbour at Yunotsu, further consideration should be given to including the inner harbour to the high water mark, as well as the presumed historic landing area.

Ownership

The site is owned by National, Prefecture and City governments and by private owners.

Protection

Legal Protection

The component features of the property are designated as an Important Cultural Property or a Historic Site under Article 27 and Article 109 of the Law for the Protection of Cultural Properties, respectively, and selected as an

Important Preservation District for Groups of Historic Buildings under Article 142 of the same law. The buffer zone is currently protected under a landscape ordinance of the City.

It is the owners or custodial bodies of the Important Cultural Properties and Historic Sites that manage, repair and open them to the public for promotion purposes in an appropriate manner. Alterations to the existing state of buildings designated as Important Cultural Properties or areas designated as Historic Sites as well as actions that will affect their preservation are legally restricted and require the prior permission of the Commissioner of the Agency for Cultural Affairs.

ICOMOS considers that the protective measures for the property are adequate.

Conservation

History of Conservation

Consolidation of the excavated mine areas was undertaken at Ginzan Sakunouchi in 1977-1978 and 2001.

Conservation work has been carried out on houses with heritage designations in the towns. For instance the House of the Kumagai Family was restored between 2000 and 2005. At the Daikansho Site, repair work with partial dismantlement was conducted on the front gate, the row houses and clay walls in 1969, 1977-1978, and 1991-1992.

Present state of conservation

The silver mining sites (mining/smelting/refining) as archaeological sites appear to be in good condition, although the impact of tree roots is a matter of concern.

Although the transportation routes are in fair to good condition, in at least some cases the track features (drains, steps and track route) are somewhat deteriorated or eroded.

The ports are in fair condition. The settlements and related buildings, including the port towns, are in poor to good condition. In some cases, such as Ômori-Ginzan and perhaps Yunotsu, the condition appears fair to good, although in Yunotsu there are decaying wooden buildings. The best of the buildings, such as the Kumagai House, are in very good condition. However, in such places as Tomogaura, the condition of buildings appears much less satisfactory. These places have only recently received a heritage designation and thus conservation work has only just started and is yet to have much of an impact.

The castle sites as archaeological sites appear in good condition, although the impact of vegetation probably needs monitoring and management to ensure no impact, as for the mining sites.

Overall the dossier may be a little too optimistic in places.

ICOMOS considers that the property would have benefited from more conservation work before being nominated.

Management

In order to manage the fourteen component features as one whole cultural landscape, a strategic preservation and

management plan has been created. If the site is inscribed, a preservation and management system will be implemented in the context of the whole property, and a World Heritage Management Committee will also come into existence. This will be set up by Ohda City in consultation with Shimane Prefecture, and will involve relevant departments. The Management Committee will have the benefit of advice from the Iwami Ginzan Silver Mine Investigation and Maintenance Committee, and will consult with the Shimane Prefecture Council for the Protection of Cultural Properties, the Ohda City Council for the Protection of Cultural Properties, the Ohda City Preservation Council for Preservation Districts for Groups of Historic Buildings, and the Ohda City Landscape Conservation Council. In addition, the Ômori Town Cultural Properties Preservation Association allows collaboration with owners and residents in management issues. Local communities have been involved in the nomination process, and they will be actively involved in the ongoing management of the site components. There appeared to be strong local support for the nomination.

ICOMOS has some concerns over the integration and effectiveness of decision-making given the complexity of administrative, legal, technical and consultative arrangements; it is also concerned that the management system will only come into effect if the property is inscribed.

There are four management plans for the site. A "comprehensive" preservation/management plan for the overall site, as well as plans for the mine site, Ômori-Ginzan and Yunotsu. The plans are general rather than offering specific actions to be taken. However, conservation and maintenance work consistent with these plans has been undertaken or is in progress.

Nevertheless ICOMOS considers that the following aspects of management need greater attention:

- Development of an active periodic monitoring program for the site (rather than just the current proposed opportunistic monitoring).
- Development and implementation of appropriate tourism management strategies, including managing the site carrying capacity, and traffic and pedestrian management. A proposed tourism management plan is due to be completed in March 2007. Currently the site has only minimal interpretation.
- Management of the natural changes to the forest landscape and how this may change an appreciation of the relict mining landscape.
- Development of management approaches to the potential impact of tree roots on the silver mining sites as archaeological sites, as well as on structures (e.g. retaining walls).
- Monitoring of water pollution from the mines.

A GIS system to record the site has been under development for 10 years. It is comprehensive for the core zone and includes both spatial and text data. It is updated

every year; a future task will be to integrate it with the planning database.

Resources, including staffing levels, expertise and training

Ohda City manages the fund for the protection of the Iwami Ginzan Silver Mine, in accordance with its ordinances; private capital is also provided to this fund. For the remainder of the property, conservation and maintenance is the responsibility of private owners who are eligible for grants up to 82.5% from the national government and Shimane Prefecture for designated structures.

In the past 5 years ¥1.8B has been provided to the nominated site. This is expected to diminish a little in future years but continued funding seems to be assured.

However, there appear to be issues about the resources available for conservation compared to the needs/demand. ICOMOS is also concerned that the full implications of the management of the underground remains and the impact of tree growth in the archaeological remains have yet to be fully explored.

ICOMOS considers that the management system for the property could be adequate once implemented if it were supplemented by more specific strategies for the aspects outlined above.

6. MONITORING

Four monitoring indicators have been developed:

1. The state of conservation in terms of the significance and authenticity.
2. The effectiveness of the management system.
3. The impact of visitor and tourism pressures, environmental pressures, natural disasters and development pressures upon the property and its buffer zone.
4. Achievement in developing the property and its buffer zone, as an internationally-oriented resort in harmony with the historic environment.

Each of these has sub-categories. The monitoring is mostly carried out annually by Ohda City.

7. CONCLUSIONS

A unique combination of mining and smelting/refining sites, along with dedicated settlements and mountain-top fortresses, within a defined boundary, plus the surviving lines of shipment to the coast and their cultural links, make the Iwami Ginzan a strong candidate for inscription as a World Heritage property. The role of insular development of technology in the expansion of mining in Japan, and the impact of silver production on a scale comparable with that from Europe and Latin America in the 16th / 17th centuries, make it of potential international importance. However, further research is needed for the reality behind the importance of the site to be fully revealed and presented in support of the nomination.

There are a number of aspects to the property which bear comparison with, and complement, other mining sites on the World Heritage list, particularly in respect of the cultural linkages. Some aspects, like the insular development of mining technology, are perhaps unique at an international level.

Given the overall situation with the property, the impression is that the nomination would have been much stronger if it were made in a few years time. By then, further research could have been carried out and a range of tasks completed, such as the tourism management plan. Tomogaura, as well as other places, could have benefited from several years more conservation effort.

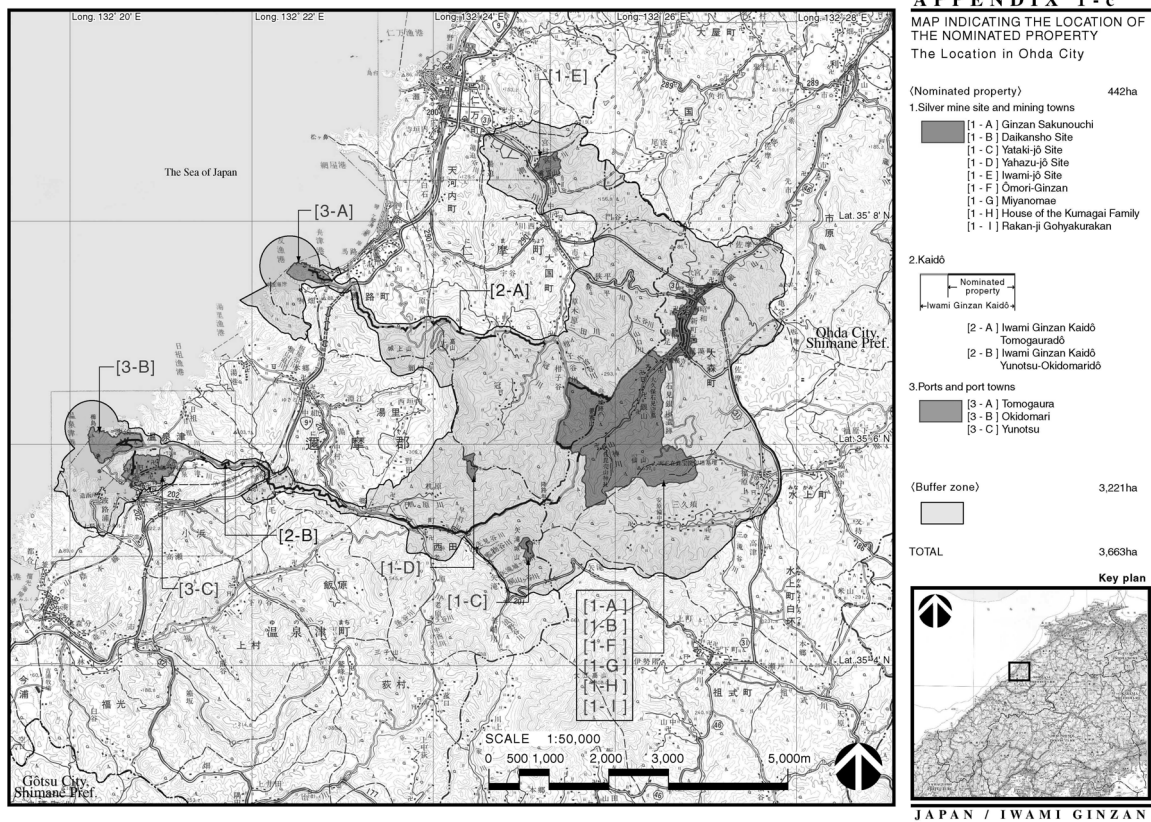
Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of Iwami Ginzan Silver Mine and its Cultural Landscape, Japan, to the World Heritage List be *deferred* in order to allow the State Party time to:

- Investigate more fully the development and application of technology at the mines;
- Investigate the overall impact of the mining enterprises in the region and further afield in order to establish whether the property has the potential to demonstrate outstanding universal value as a site that had a substantial impact outside its own area in terms of technological change, economic leverage and cultural exchange.

ICOMOS also recommends that attention is given to putting in place the proposed management arrangements, completing the tourism and interpretation plan, and continuing with conservation work on historic structures.

ICOMOS further recommends that a more detailed archaeological strategy is developed to address the consolidation of underground remains vis a vis the encroaching tree cover, and the investigation of water pollution, and that strategies to address new motorways and possible clay mining are adopted.



Map showing the boundaries of the nominated property



Aerial view of Mount Senoyama



Remains of mine shaft, Kamaya-mabu



Street of Omori-Ginzan



Rakan-ji Gohyakurakan



Remains of stone pavement (Iwami Ginzan Kaidô Yunotsu-Okidomaridô)



Aerial view of Tomogaura