

The Restoration of a Jomon Settlement at Goshono Site

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1. Introduction

The Goshono site are the remains of a settlement from the mid to late Jomon period and are located in Iwadate Goshono in Ichinohe-town in the Iwate prefecture (annotation 1). They were discovered in an investigation for construction work of an industrial park in 1989, in the following 3 years a plan of the scope of the ruins and an analysis was created, in 1993 it was declared a national historical landmark (Ichinohe Board of Education 1993) . After the declaration in the two years from 1994 5.4ha of land in the designated area was acquired, and in 1994 a decision on a basis for a maintenance plan was reached (Ichinohe Board of Education 1995). The topic of that basis was “the coexistence of regional culture and natural environment,” and the backbone was to make proper use of the specific points of the ruins blessed with natural environment and to preserve a scenery that is grounded in local culture and environment of the Jomon period. By 1995 the general plan for maintenance was created (Ichinohe 1996), and by 1996 basic design of maintenance was drawn, so by 1998, after the creation of the final design, the Agency for Cultural Affairs installed support enterprises and embarked on the maintenance projects. After this the plan was followed in a prescribed order, after 5 years in the spring of 2003 it was finished except for one section and, along with the guidance facility, the Goshono Jomon Museum, it was opened as the Goshono Jomon Park.

The maintenance project continued after this, from 2003 to 2007 the excavation research for the restoration of the Hottatebashira building site in the central area was carried out, and based on the results the building was reconstructed in 2004. From 2005 the excavation research for the restoration of the remains were accompanied by a research over four years to prove the scope of the ruins, which led to further 18,748 m² of hilly area being claimed in 2006 after the distribution of the remains over the hills on the east side was proven at the same time.

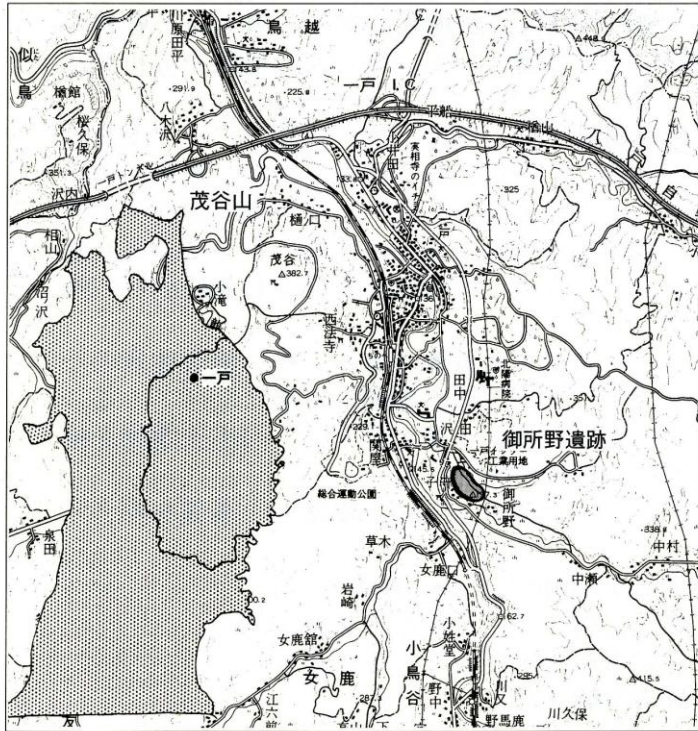


Figure 1 : Map of Site Location

In 2008 there was a new development. The Jomon Ruin Area in Hokkaido and the northern Tohoku region which had applied as a candidate for World Heritage, was chosen by the special committee as Japan's candidate for becoming a World Heritage site. And after the ministry liaison conference in December, it was officially released on the tentative

UNESCO World Heritage list every year on January 5th. From 2009 onward the application for the World Heritage was put into focus, the detail analysis of the remains of an embankment in the central ruin area began, and after the research that continued until 2012 a written report was published.

Explained below is an outline of the research and maintenance progress of the Goshono ruins until today, remains are distributed over about 89,000 m² of the ruin area, until today only about 10% of this has been properly researched. And here I want to display how the reconstruction of the Jomon settlement was carried out, limited to theoretical data.

2. The scope and structure of the settlement

(1) The scope of the settlement

Not only are there remains to be found over almost all terraces on the Goshono ruins ground, during a small scale trench research on the eastern terrace area more remains were discovered. Furthermore, in the Babatai ruins below the terrace area on the eastern side were researched

during the construction of the bypass for state highway No.4 in 1977 and 1978, were designated to be from the same time period as the Goshono ruins, and suspected to be part of the same settlement. There were also ruins from the late middle period found scattered in a two kilometer radius of this area. The above mentioned ruin group though does necessarily have to be considered as being separated into the Goshono ruin area that spans from the Babatai ruins, from the middle to late period, to the highest terrace area, and another ruin group that is dated to the late middle and early late period. Countless remains in the ruins group are assumed to stay in connection to the Haiseki remains within the Goshono ruin group, but I will refrain from assumptions that these are remains from after the Goshono settlement separated (annotation 2).

The scope of the above mentioned settlement runs 700m east to west from the Goshono ruins to the Babatai ruins and 200m from south to north. But the national highway 4 which runs above the Babatai ruins made the restoration of pit dwellings in that area actually impossible, so they will become an object of mere analysis.

(2) The construction of the settlement

It had been proven that there was a large amount of remains on the east, middle and west area of the middle terrace in the Goshono ruins. Most of it are pit dwellings and earth holes, but in the middle area are the Haiseki remains, grave holes, the ruins of the Hottatebashira building, the remains of an embankment and buried earthenware among others. To properly divide the above mentioned ruin groups to their period, all Jomon settlements were termed from Period I to Period V going by the duration of their existence. The relationship between each period and earthenware is as follows.

Period I is Model C with the cylindrical upper half、Period II is Model D and E (Daigi (大木) 8 Model a) with the cylindrical upper half, Period III is the Enokibayashi Model (榎林式) and Daigi Model 8 b, Period IV is Daigi Model 9, Period V is Daigi Model 10. If the research were to go on, it is possible for them to be divided further but once understood under the simple to grasp broad segmentation as settlements every ruin in this sector will be explained by following this period system. The

research to confirm the scope and details, as well as the later research for maintenance continued, currently they have found 177 pit dwellings (out of which 80 were completed) in the Goshono ruins, and 37 in Babatai. Approximately over 200 dwellings were investigated, but because each pit dwelling differs in its surface structure within different periods, and a separation into shape and style is also possible, there are some remains that can be assumed to belong to an approximate period (annotation 3).

The East Sector

Ruins were detected in almost all of the area, but the findings of dwellings and earthenware was especially dense in the southeastern part. Currently up to 234 structures have been acknowledged, but it is very likely that in the not yet researched areas over 300 structures remain. Among all dwellings are sizes from big to medium to even small structures, but the majority of them are duplicates (annotation 4). Going by the excavated earthenware or the surface structure they were considered to be remains from all periods from Period II to Period V at the time of their discovery.

The Central Sector

On the northern side of the central sector is a barren field of about 80m from east to west and 50m from south to north, which is the place where the ring-shaped Haiseki ruins have been reconstructed. Under the Haiseki remains and in their surrounding grave holes have been discovered, and outside this pillar foundation holes that go with the Hottatebashira buildings have been found in large numbers (annotation 4). On the southern end of the Haiseki ruins, in an area of about 80 to 90m from east to west and 40m from south to north, the remains of an embankment have been found, outside this area underground earthenware was discovered as well. In the embankment, along with a large amount of earthenware and stone tools, a large amount of animal bones, carbonized plant seeds, artifacts made of clay and stone and pebbles that had cracked from heating was unearthed along with the discovery of a stone hearth and clay masks.

Around and even beneath the aforementioned Haiseki ruins and embankment remains much older pit dwellings and earth pits have been discovered, the pit dwellings alone are between 300 and

350 structures. Big, medium and small structures are all considered to be remains from Period II and onward, but from them overlapping locally with the Hottatebashira building and the embankment remains it becomes certain that they can have only been constructed in Period III and onward.

The West Sector

The northeast area of the west sector is slightly sloped, therefore all the ruins are concentrated on the western side, but the research on data for the reconstruction of the ruins looked at the northwestern slope, which had comparatively few overlaps. The proven dwellings were about 50 structures, but it is possible to assume that there are about 100 structures including those in not yet researched areas. Pit dwellings of big, medium and small size were found here as well, and earthenware from Period II to Period V was unearthed. Earthenware from Period III though was comparatively rare.

The Babatai Sector

Although being called the Babatai ruins in reports (Ichinohe-town Board of Education 1983), it is actually considered part of the Goshono ruins. 37 pit dwelling structures were researched, though if the ones that are supposed to have been remodeled were to be included, it would be 41 structures. Pit dwellings of big, medium and small size were found here as well, 5 big structures, 22 medium structures and 14 small structures. That is the currently confirmed distribution over the whole sector. If we integrate that into the structure of the settlement as a whole until now, as well as the broad changes, it leads to the following.

- (A) Pit dwellings from Period I were only confirmed in the Babatai sector, but earthenware was discovered in the central area as well, so it is possible for further ruins to be found upon further research. At any rate, the settlement itself can be considered small scale.
- (B) Structures from Period II have been discovered in the Babatai west, central and east sector, and big, medium and small pit dwelling structures have been researched. The gravesite of the aforementioned Period I and II has not yet been discovered.

(C) The pit dwellings from Period III in the northern area of the central sector are laid out in either a ring-form or a horseshoe-form. In a very recent investigation pit dwellings from Period III have been found in the western and northern area.

Furthermore, the first gravesite formation is assumed to have been built in Period III, but it is possible for it to be younger. At any rate, the embankment in the southern area of the central sector started to form during Period III. Furthermore, the number of remains found in the eastern and western sector is rather scarce, so the Babatai sector is being examined as the central dwelling space for its big structures.

(D) The dwelling formation from Period IV followed the settlement from Period III directly, but there are almost no remains in the Babatai sector, which is why the scope of it is limited to Goshono.

(E) Remains of dwellings from Period V are basically found in all sectors of Goshono, but they are not concentrated in one place, but rather found in places with no other ruins so far, as for example on the northeast side or around the embankment.

The structure of the big, medium and small ruins from Period IV and V are put under maintenance as well, and are also considered to be dwelling groups which center around the big structures. But, the big structured buildings are also no longer the long-house structure that was found so far, as their form changed leading to them becoming gradually smaller. During the change towards Period IV and V respectively, graves were erected in the central sector, and alongside that the Haiseiki ruins, as well as the Hottatebashira building to the west and east was constructed. This is the structure of the Goshono ruins and the general change it went through.

3. The structure of the pit dwellings

Next will follow a classification of each sectors pit dwellings according to their periods, and an investigation of what structure the settlement had in each period. For an analysis I will choose the

Babatai and eastern sector, which, among all the sectors, are comparatively large in size and have been intensively researched.

(1) The Babatai Sector

It was possible to assume the time period from the earthenware discovered in some of the forty-one pit dwelling structures, including those which had been remodeled. Nine structures were Period II, twelve were Period III, which comes to a total of twenty-one. Among all the pit dwellings were big, medium and small structures, but four of those had been rebuild in the same location but with a different direction, and two had been rebuild twice while remaining the same structure, which sums up to six rebuilds. But because the floor level remained the same for up to four times, it is very likely that more remodeling took place. Taking these big structures as a center, the medium and small structures were scattered around them.

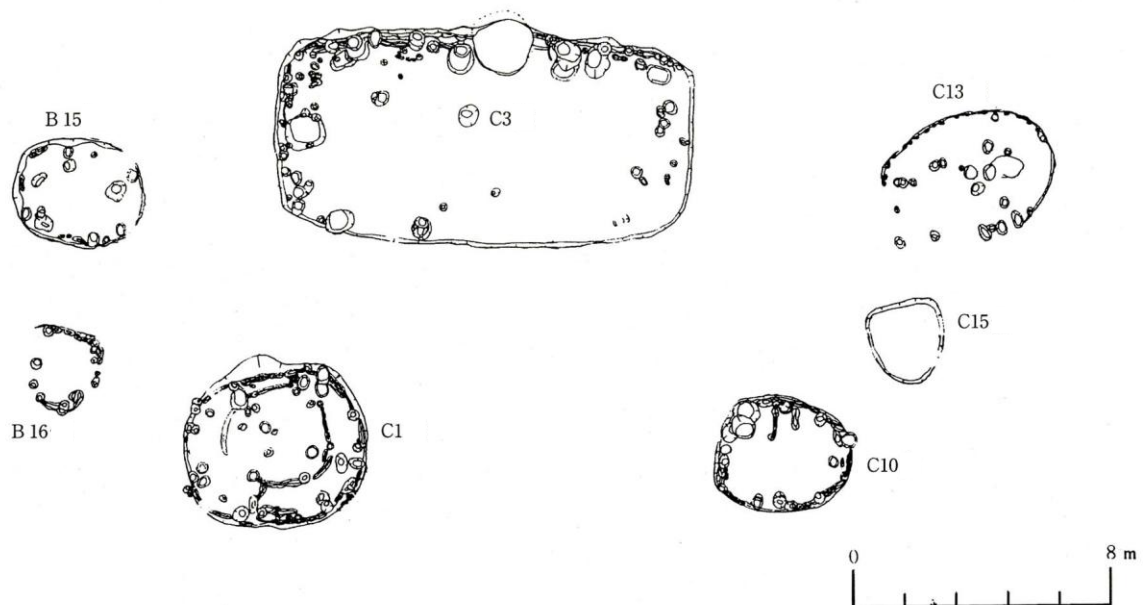


Figure 2 : Dwelling Group at Babatai (Phase III)

Chart 1 : Babatai Phase III Dwelling Remain Floor areas

No.	Name	Area (m ²)	Classification	4	C 10	15.84	Middle
1	C 3	77.24	Large	5	C 1	23.55	Middle
2	C 13	17.20	Middle	6	B 16	5.0?	Small
3	C 15	4.94	Small	7	B 15	10.48	Middle

For the big structure buildings from Period III that were built on top of those from Period II, as well

as the medium and small structures, the structure of the settlement is considered to be generally the same as during Period II. For each big dwelling eight medium and small buildings were gathered around it, and it was proven that a big structure was rebuilt once, medium and small structures twice. Including the above mentioned rebuilds, individual pit dwellings moved away from each other more and more (graph 3), around each big structure gathered four medium and 2 small dwellings. It is unknown whether the above mentioned 7 structures actually coexisted, but it is easy to assume a relatively close relation, even if one or two structures vanished or were added. When comparing the total floor-space of the one big structure and the accompanying medium and small structures in one group, it becomes almost close to each other (graph 1).

(2) The West Sector

While investigating the northeast slope of the west sector for data on the reconstruction of pit houses thirty pit dwellings were excavated. On this occasion carbonized wood and burned soil was found in the floor, which was considered the remains of another seven pit houses, among them were dwelling DF22 and DE24 in the center of the researched sector, especially in the case of two of the smaller structures the probability of them being from approximately the same period was deemed high, based on excavated earthenware and the shape of the pit, the latest period for pit dwellings in the Goshono ruins, Period V. When comparing the floor of every pit dwelling, the big houses have 48 m², the medium houses 12 m², and the small houses 3 to 5 m². To sum it up, a unit of houses consists of a big pit dwelling in the center and a slightly below 12 m² medium sized building and three small houses.

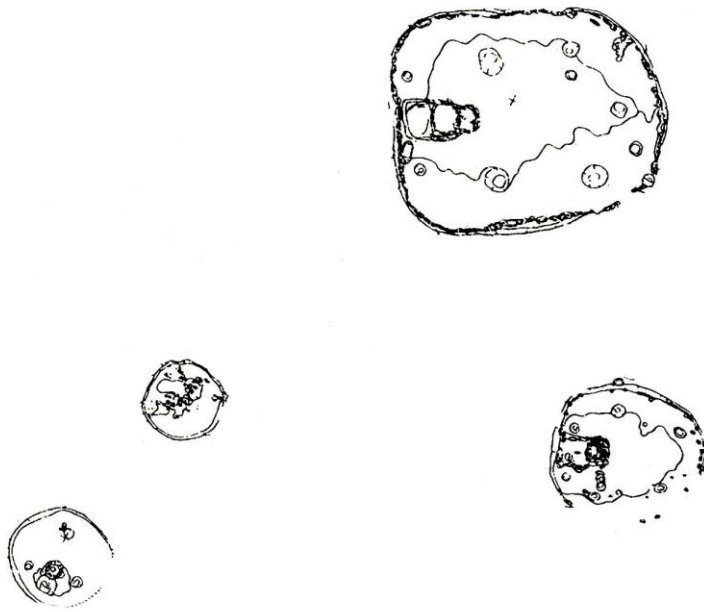


Figure 3 : Dwelling Group in Western Area (Phase V)

The Babatai sector has settlement groups from Period III and the west sector settlements from Period V, but when comparing Period III and V it becomes obvious that the big structures are getting smaller in dimension, and along with it the number of accompanying medium and small structures decreases as well. The chance of being able to group the dwelling groups together to one residency formation in both Period III and V is considerably high, several of these residency formations forming one assembly is thought to be the true form of the settlements within the Goshono ruins. This structure of placing the big structure as the center is generally thought to be applicable to Period IV as well, and big, medium and small pit dwellings were investigated in every sector. When comparing the floor of big pit dwellings from all periods it is considered to have been 75~95 m² from Period II to III, 50~60 m² in Period IV and decreased to only 48 m² in Period V, as if acting in concert the number of medium and small structures decreased with it. This might hint towards the house formations growing smaller in scale over time. At the point of Period V the remains that were limited to Goshono itself now spread throughout all the Goshono ruins area, as well as scattering over the circumference as has been reported before (Takada 1997-1), and it is possible that this movement stands in connection to the change towards a decreasing size of the house formations itself.

Additionally it should be mentioned that in a recent study the central sector of the settlements in the Goshono ruins an understanding of a great difference between Period I to the early half of Period II and Period III, IV and up to the later half of Period V has been reached. The grave site for the former is unknown and with the coming of Period III the pit dwellings in the northern part of the central sector were completely remodeled to a ring or horseshoe form. But over the pit dwellings from Period III the Hottatebashira building remained. This is how it was established how the ring-formed Haiseki remains and the Hottatebashira building were to be joined together from Period IV onward. In other words the structure of the settlement between Period I to the early Period II and Period III to late Period V, which was put the grave site into the center, was fundamentally different. Especially from when the Hottatebashira building was constructed in Period IV and onwards the structure of the settlement is thought to have fundamentally changed. Based on investigations like this the ruins were constructed like explained in the following.

4. The Restoration of the Settlement

By arranging the excavated ruins according to their periods it is possible to deduce a large part of the changes that the settlement underwent, but in this case, because of the limited written material, nevertheless reconstructing buildings over ruins that have been researched as a general rule, whether preferring the construction of pit dwellings one by one, reconstructing ruin groups about which more information was known in every sector, or preferring to reconstruct the whole settlement as one structure, maintenance methods had to be chosen fitting towards either of these. In the former case, it would have been ideal to reconstruct the Period III dwelling groups in the Babatai sector and the Period V dwelling groups in the west sector step by step, but in this case a road would have already been built over the Babatai sector and the restoration of that area would have been impossible, and to reconstruct them provisionally on another terrace step by step would have been absolutely ineffective. Therefore it was now preferred to rebuilt the ruins as one big structure. At this point details about Period I were almost completely unknown, The structure of dwelling groups in Period II and III could be imagined to a certain degree but an image of a grave

site was still unclear. It is likely that the ring-formed center in the central area during Period III was used as a grave site, but it is not generally accepted. Further, leaving out the Babatai sector, overlaps of ruin groups from Period III, IV and V were an often occurrence, and the state of the remains was rarely good. Therefore a grave site was decided upon and the reconstruction of the settlement, using especially remains from Period IV and onwards, which had clear distributions of buildings beside the pit dwellings, like the Hottatebashira building. At this point the burnt down remains of a dwelling was excavated in the west sector like an afterthought, furthermore for a consistency and grasp of the pit dwelling groups Period V could be used but in the east and central sector there were no investigations on this and it became growingly impossible to group pit dwellings of every period together. The most information was gathered on Period IV, furthermore the big pit dwellings from this period were most researched and became the accepted standard. Because, as said above, Period IV and V were considered to have the same basic settlement structure, the Haiseki remains and the Hottatebashira building was reconstructed in the central part and displayed as the central area of the settlement.



Figure 4 : Map of Goshono Park

5. The Architectural Examination of Pit Dwellings

Concerning the pit dwellings and the Hottatebashira building of the Jomon era, there is of course nothing except assuming the roof structure from the shape of the pits buried in the ground and the holes for the pillars, though lately during the investigation of low and damp ground there have been excavations of

what is thought to be construction material, still the numbers are low and the information is still insufficient. And during an investigation for the maintenance of this the burnt down

remains of a pit dwelling were discovered,

especially the condition of the carbonated wood being extremely good, worthwhile data on the reconstruction of these buildings could be gained, so I will reconstruct the

information won from

this burnt down structure here.

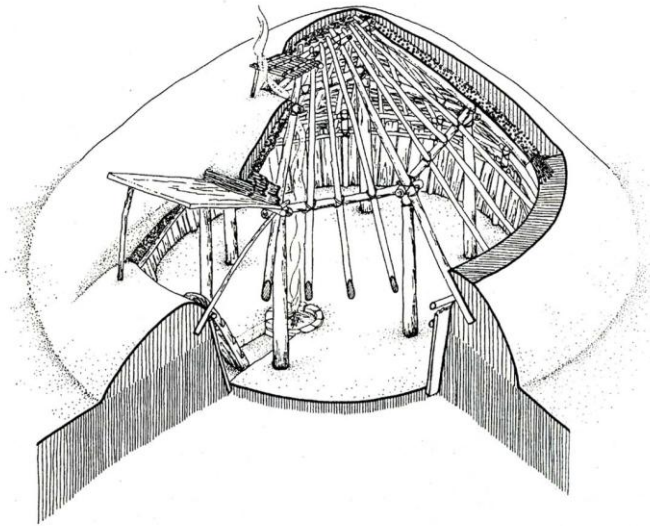


Figure 5 : Reconstruction Model for Middle Size Pit House in Western Areas

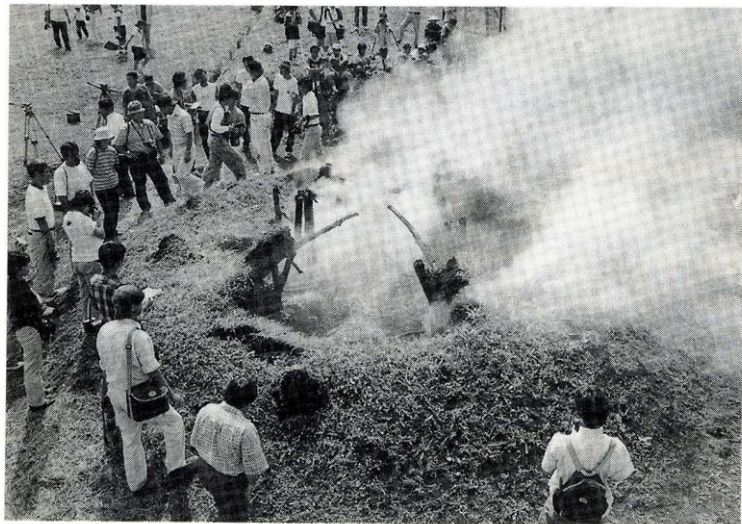


Figure 6 : Experimental Burning of Pit House

Seven burnt down structures like this have been found in the west sector, but four of this buildings were judged to have coexisted. Especially the big structure DF22 and the 2 medium structures

DE24 were considered much because of the good condition of the carbonated wood inside, and it was accepted that dirt had been piled on the roof. Furthermore, grass, which had been widely accepted in the reconstruction of those buildings to be used in covering the roofs, was not found at all. Additionally the amount of construction wood found in both the big and medium structure was more than expected, along the mud walls run pieces of wood every 2~3cm, used to defend against possible cave-ins of the walls. Wood for the walls has been excavated in burnt down structures from the Jomon period before, but there was no example of it being used so regularly as in DF22. Eventually we received a reconstruction sketch from specialists in architectural history that used the research results as a basis, and based on this map we experimentally built those dwellings with dirt roofs. For two years after this, while measuring temperature and humidity, we continued observing the inside of the pit dwellings. In the reconstruction of the houses it was difficult to achieve perfect results from the beginning even when using a sketch, and there are many things that become gradually clear when repeating experiments, at this point we became able to create the next reconstruction sketch, but in the end, in the case of the medium structure, we had to redraw the sketch for the reconstruction of the pit dwelling three times. When creating a reconstruction sketch of a ruin, speaking from a architecture specialists perspective, you first create a model based on a blueprint of the excavation research, and from this model you create a draft, but, in the case of Goshono, you do an experimental reconstruction based on this and then, using this as a basis, you create a second model and revise the blueprint based on this, which is how you finally arrive at the completed blueprint. But in the case of a building the construction varies largely, depending on the area and the time period, which is why you have to consider each ruin individually. This is very likely how it was possible to reach the stage of an actual discussion about both the structure reconstruction of the Jomon period and the empirical reconstruction. The observation of the experimental buildings continued for two years in that same state. When it became necessary to disassemble the experimental buildings for the actual reconstruction, they were burnt down as an experiment. In this experiment construction material like pillars or columns remained and to make the roof, on which dirt had been piled up in the process, burn down, carbonated wood and burnable soil had been spread underneath, the piling of dirt had been

recreated with utmost care, and the dirt roof dwelling had been actually verified. Apart from this it showed that within the dirt roof dwelling a lack of oxygen was quickly reached and it burnt poorly, which is how it became accepted that the burning down was not an accident. In other words it became the trigger to consider a social meaning for burning a dwelling down intentionally.

6. The Reconstruction of the Inside of a Dwelling

The reconstruction of pit dwellings from the Jomon period it is common to construct the building from research from an architectural perspective, but so far there are almost no maintenance directions on how to reconstruct the inside of such a dwelling. Of course it has to be mentioned that there is only few information to base such research on, but there are many cases where a guidance perspective for the maintenance of the inside is completely lacking.

Here it has to be mentioned that in the four burnt down structures in the west sector many relics have been found.

If comparing the floor part of the four structures, the smallest dwellings DG26 had multiple, the dwelling DH28 twice, the dwelling DE24 thrice and the dwelling DF22 almost nine times the amount of relics (graph 1). In the abovementioned pit dwellings relics as seen in picture 2 were excavated. Earthenware was found in any of them, what was unexpected was that the possession of earthenware stood in no relation to the size of the dwelling. For example in the case of a typical clay pot, the small dwelling DH28 had six items, the dwelling DG26 of the same size only three, the big structure DF22 only two and the medium structure DE24 only one item. Otherwise 4 items of small size or sake-cup shaped earthenware was found together with other earthenware in the same place in the big structure DF22. Stoneware on the other hand was found often in the big and medium dwellings; it especially concentrated in the big structure DF22. Plant remains were also excavated in the big and medium dwellings.

Concerning excavated relics, the number of boiling utensils found in the small dwellings was great,

weapons for hunting and tools, especially those for cutting plants, as well as tools for manual labor were found in the big and medium dwellings and concentrated especially in the big structure. Due to the existence of these relics the use of every pit dwelling can be deduced. A fact like this makes it possible to assume that the size of each pit dwelling does not only point towards the individual number of people living in it, but also shows it's general function as a building. When reconstructing the insides of such a dwelling, it is necessary to get a grasp of the function and use of all the institutions within the group units first and then to research each pit dwelling individually.

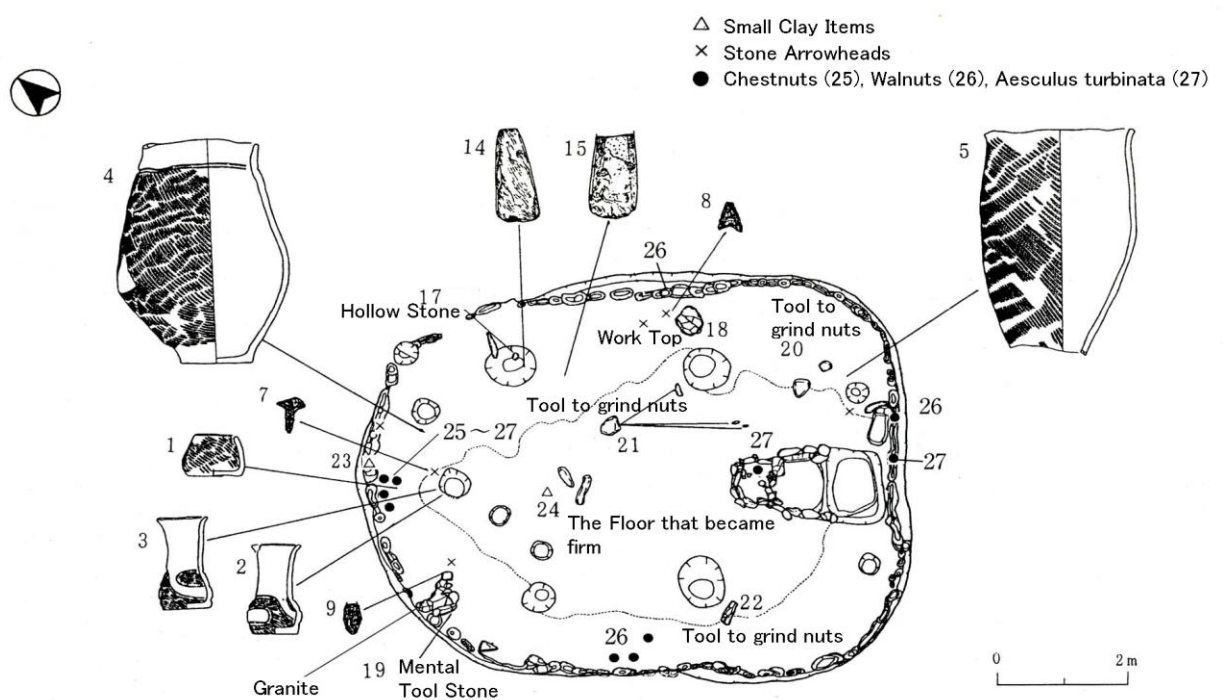


Figure 7 : Layout of Artifact Remains in Large Size Pit House in Western Area

There is almost no research material on how to actually reconstruct the inside of a pit dwelling, though it is possible to assume the position of pillars or stoves to a certain degree by finding out the spaces that were flooring based on softer ground and the general condition of the earth. Apart from assumptions based on relics like in the aforementioned case, there exists no other method. Though during this investigation, in the case of two structures out of the four investigated, another unique facility was made known.

Among the four structures there is granite on the left hand back wall from the entrance of the big dwellings DF22 and DE24. The one in DE24 is about 30cm long and 19cm deep and installed on the side of a pillar. Such a piece of granite is found in the same place in DF22, but is 78cm long and 26cm deep, a stone rod of about 12cm length is lying next to the wall, and close to it a 27cm x 27cm, 5cm thick tablet like granite piece is erected vertically on the ground, around it sake-cup shaped earthenware, small earthenware and small clay items have been excavated. A piece of granite like this, because there is no other production area of such items except Moyanoyama on the other shore, it is believed to have been brought in larger numbers from the mountains and must have been something that was brought here with a purpose, similar granite pieces have been used in the central ground of the Haiseki ruin group as a standing stone, and it is likely that the stone itself was used as an object of religion (annotation 6). Because of this the back wall on the left side of the pit dwelling is thought to be a ritual area. It is possible that further usages of space in the big dwellings can be deduced from relics excavated within.

Table 2 : List of Artifact Remains from Burnt Dwellings in Western Area

Name	No.	Assortment	Stratigraphy	Name	No.	Assortment	Stratigraphy
DG26	1	Deep Pot	Filled Soil 4th layer	DF22	6	Small Earthenware	Digging Filled Soil
	2	Deep Pot	on the Floor		7	Stone Drill	on the Floor
	3	Deep Pot	Filled Soil 4th layer		8	Stone Arrowhead	on the Floor
DH28	1	Deep Pot	on the Floor P1		9	Stone Arrowhead	on the Floor
	2	Deep Pot	on the Floor P2		10	Stone Arrowhead	on the Floor
	3	Deep Pot	on the Floor P3		11	Stone Arrowhead	on the Floor
	4	Small Earthenware	on the Floor P4		12	Stone Arrowhead	on the Floor
	5	Small Earthenware	on the Floor P5		13	Stone Arrowhead	on the Floor
	6	Deep Pot	on the Floor P6		14	Stone Hatchet	on the Floor
	7	Stone Arrowhead	Filled Soil 2nd layer		15	Stone Hatchet	on the Floor
	8	Walnut	Filled Soil 2nd layer		16	Stone Hatchet	Filled Soil 3rd layer

Name	No.	Assortment	Stratigraphy	Name	No.	Assortment	Stratigraphy
DE24	1	Deep Pot	on the Floor	DF22	17	Grinding Stone	on the Floor
	2	Grinding Stone	on the Floor		18	Work Top	on the Floor
	3	Grinding Stone	on the Floor		19	Mental Tool Stone	on the Floor
	4	Grinding Stone	Filled Soil 2nd layer		20	Tool to grind nuts	on the Floor
	5	Grinding Stone	Filled Soil 2nd layer		21	Tool to grind nuts	on the Floor
	6	2 pieces of Walnut	on the ground, 2nd layer		22	Tool to grind nuts	on the Floor
	7	Stone Arrowhead	on the Floor		23	Small Clay Item	on the Floor
DF22	1	Small Earthenware	on the Floor		24	Small Clay Item	on the Floor
	2	Sake-cup Shaped Earthenware	on the Floor P1		25	Chestnut	on the Floor
	3	Sake-cup Shaped Earthenware	on the Floor P1		26	Aesculus turbinata	on the Floor
	4	Deep Pot	on the Floor P2		27	Walnut	on the Floor
	5	Deep Pot	on the Floor P3				

7. Conclusion

The enterprise of maintenance means preserving ruins for later generations and making the information gained from excavation research visible and enact it in a way that creates a wish for understanding it, this basic principle becomes the goal of researching remains. But, because these remains itself get more and more destroyed the more you research them, the research to gain information must also be restricted. Therefore it is necessary to understand that the enterprise of maintenance carries with it this internal contradiction. For this we have to try and do minimum research with maximum results, why we have to report exactly on base data on maintenance and the basis of restoration, and while assembling this we also have to gain new assets, an attitude like this has become necessary. Regrettably so far a basis of ruin restoration found in information material on maintenance has been scarce so far, over half of it is the technical aspect and reports that do nothing but a detailed explanation of charts and graphs are found often. Within these there are examples of maintenance lacking personality, where it is just proposed to

create something in another place and change just one small detail.



Figure 8 : Pillar Building Site and Sod-Roof Dwelling

In this partial research I took the topic of 'the reconstruction of a Jomon settlement', ruins with few research material on it and introduced a detailed report of the maintenance for the aforementioned reasons. We are currently in the process of creating direction material for maintenance, but we plan to include as much related data to this topic as possible. There will still be discoveries of precious ruins and the cycle of maintenance will begin again, but by following advices on it like those above, the probability of one act of maintenance giving birth to another rises.

Notes

1. Among earthenware models there is the Model c with the cylindrical upper half, and settlement traces from Daigi Model 8a to Daigi Model 10. In the northern region of the Iwate prefecture where the Goshono ruins are, as well as Okunakayama north of Ichihe-town are entered into the cultural sphere of cylindrical earthenware especially during the first half of the middle period, but from the Daigi Model 8b onwards the influence of the Daigi type earthenware becomes stronger.

2. In the circumference of the Goshono ruins there is a collection of ruin groups found in a two kilometer radius with the Goshono ruins themselves at the center, the Odaira ruins on the other side have been researched on a ground of about 130.000m during a prior investigation for the town's general sports park, 130 pit dwelling structures from the end of the middle period to the late period of the Jomon period were discovered. The Tanaka ruins on the north side of the Goshono ruins were researched on an area of 110.000m during a search for an alternate place for the Goshono ruins industrial park, and 160 pit dwelling structures from the same period were found. In the same way 15 pit dwellings from the same period had been investigated in the Kamizigiri ruins on the outskirts of the Goshono ruins. In the Komori ruins on the south side 2 pit dwellings of the Daigi 10 Model were investigated. In another detailed research in the Goshono II ruins, the Goshono III ruins, the Kamizigiri ruins, the northern Tate ruins, the western Odaira II ruins, the Odaira III ruins, the Sekiya ruins and the Tatekoshi ruins were all ruins from the late middle period to the early late period.

3. Everything about the research on all remains and all excavated relics in all sectors has been chronicled in detail in 'The Goshono Ruins I – The Remains of a Great Settlement from the Jomon Period'.

The shape of the place for the pit dwellings changed from square, to elliptical, to oval, to round. There are also some differences in the size of the pit dwellings.

4. The size of the big, medium and small dwellings differ according to the period. For example, at the point of the middle during the middle period the big dwellings where pit dwellings in long-house shape, they stood out and were over twelve meter in diameter, the difference to the medium and small dwellings was easy to recognize. But the big dwellings grew gradually smaller in size down to six or seven meter in diameter. There was no strict aspect that distinguished them from the medium and small dwellings, this also is different depending on the time period, if a dwelling reaches the size of about ten meters, it is considered a medium size when above and a small size

if below.

5. In an investigation of the west side from 1999 to 2000 a collection of pillar holes was found outside the Haiseiki ruins, it was suspected to find the same collection on the east side, so a similar thing is considered to be found during an investigation from 2003 to 2004. In a partial trench investigation in 1992 several pillar holes shaped like pit dwellings of the Daigi 8b Model were discovered.

6. The granite pieces in the pit dwellings as well as the several granite pieces in the Haiseiki ruins have been compared in several mineral composition analysis, there were some that had clearly been carried all the way from Moyanoyama. It would be advisable to make this clearer by comparing it to analysis material from Moyanoyama. I have requested assistant professor Tsuchiya Nobutaka from the educational department of the Iwate University to carry out this analysis.

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