

## STUDY ON THE MANAGEMENT OF CLOSED COMPULSORY EDUCATIONAL FACILITIES IN YAMAGUCHI PREFECTURE

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### 1.0 BACKGROUND AND PURPOSE OF RESEARCH

Streamlining of many public elementary and junior high schools is being carried out because of the decrease in number of children in urban and rural areas. The progress of the decrease in population is especially remarkable in rural areas, so the increase in streamlining of schools is expected from now on. But, the closed school is being expected another use by the local residents because it played a part as the central facilities of the area. The examination of the use plan is the subject from the effective use of the existent stock as well.

The previous researches on closed school are as follows. Research on the trend of streamlining of elementary and junior high schools and the reuse of closed school<sup>1)</sup>, research on utilization of closed school facilities<sup>2)3)</sup>, case study on the diversion to welfare home for elderly-people from the closed school by residents<sup>4)</sup>, research on the influence of the Building Standard Law in making the conversion of closed school<sup>5)</sup>, research on decision process of closed school site utilization plan<sup>6)</sup>, research on the relation between the determination process of streamlining and the one of utilization of the building<sup>7)</sup>, research on the streamlining factor of school<sup>8)</sup>.

However, there are a few studies that analyzed the management method of the school facility in detail by dividing it in main building, gymnasium and ground. In this paper, the management form of the closed compulsory education facilities in Yamaguchi Prefecture are classified by paying attention to the survival and utilization form. Next the features of every management type are analyzed and the typical examples are shown.

### 2.0 OUTLINE OF THE SURVEY

For the elementary and junior high schools that closed after 2002 years and the detail data are left to the Education Board, questionnaire investigation was carried out in November -December 2010 to 13 local governments in Yamaguchi Prefecture and the occurrence conditions, basic school data and the actual condition of reuse were grasped.

The distribution recovery result of questionnaire is shown in Table 1, the reply of 53 schools was obtained from 12 local governments. Furthermore, the hearing investigation for the typical cases was conducted.

**Table 1: The distribution recovery result of a questionnaire**

City and town	Shimonoseki City	Ube City	Yamaguchi City	Hagi City	Iwakuni City	Hikari City	Nagato City	Yanai City	Mine City	Shunan City	Suo-Oshima Town	Kaminoseki Town	Abu Town	Total
The number of distribution	5	3	9	3	1	2	5	5	1	3	4	3	3	47
The number of recoveries	8	3	9	-	4	2	8	4	1	3	4	4	3	53
Percentage of debt collection	160	100	100	-	400	100	160	80	100	100	100	133	100	113

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### 3.0 THE OUTLINE OF CLOSED SCHOOL IN YAMAGUCHI PREFECTURE

The number of closed schools in 2002-2010 in Yamaguchi Prefecture is shown in Fig. 1. There are 26 elementary schools and 27 junior high schools closed for 9 years. The closed school was increased from 2003 to 2007, and the same tendency as the trend of nation was seen. The rate of closed elementary and junior high school for every local government is shown in Fig. 2. The highest rate is 42.9% of Kaminoseki and Abu town, and the third rate is 34.8% of Nagato city. Except for Hikari city, the whole or a part of the local government area is specified as the depopulated area, so the influence of decrease in population has appeared notably.

The reason of closing school is shown in Fig. 3. The reduction of the number of children is the highest reason with 50/53 schools (94%). In connection with the reason, it is thought that the educational problems such as "lost of group's stimulus or competition" and "fall of social cooperativeness" are related mutually.

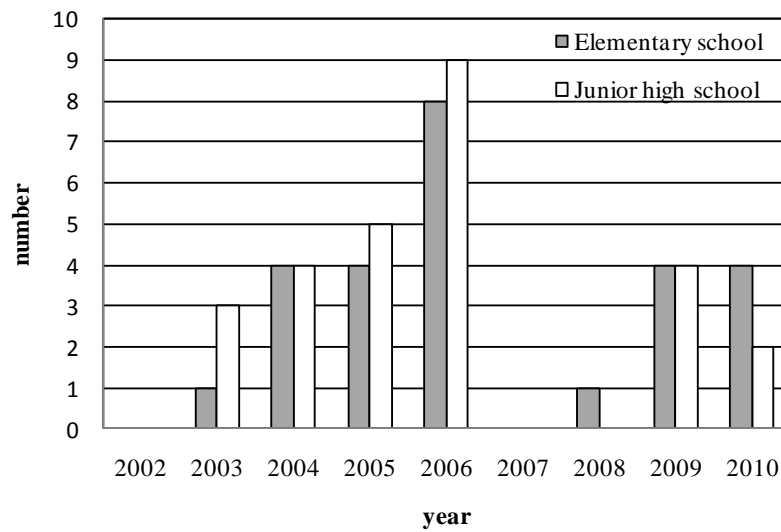


Figure1: The number of closed schools in 2002-2010

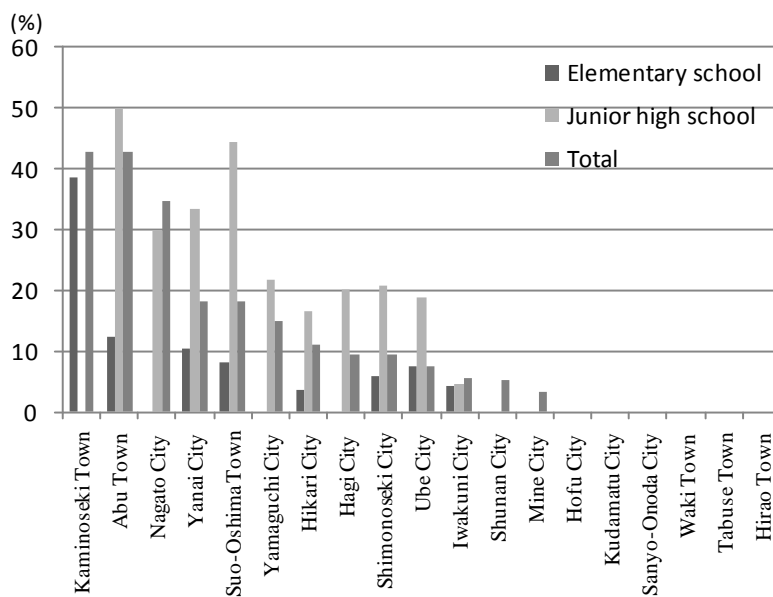


Figure 2: The rate of closed elementary and junior high school for every local government

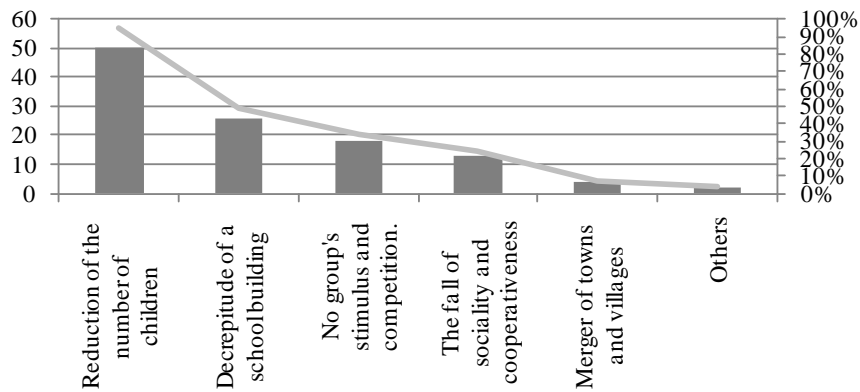


Figure 3: The reason of closing school

#### 4.0 ANALYSIS OF THE MANAGEMENT FORM OF CLOSED FACILITIES

##### 4.1 Classification of the Management Form of Facilities

The practical use situation of closed facilities is shown in Fig.4. In case of elementary school, 18 schools are in practical use (69.2%), 5 schools are in un-utilizing (19.2%) and 3 schools were dismantled (11.5%). In case of Junior high school, 15 schools are in use (55.6%), 9 schools are in un-utilizing (33.3%) and 3 schools were dismantled (11.1%). When both are summed up, 33 schools are in use (62.3%), 14 schools are in un-utilizing (26.4%) and 6 schools were dismantled (11.3%).

The employment condition is analyzed with the attention to the survival or utilization form of facilities. However, there are few cases in which teacher's house or pool exist, so they are excepted from the analysis, three facilities of main building, gymnasium and ground are targeted at the subject. The residual situations are classified into 3 types combination of "main building, gymnasium and ground", "main building and ground" and "gymnasium and ground, next the utilization situations are classified into 3 types of "use all ", " a part use ", and "un-utilizing". Furthermore, about a part use type, sub classification of "main building + gymnasium", "main building + ground", "main building", and "gymnasium" is set.

The result of cross tabulation with residual types and utilization types is shown in Table 2. About the type of "main building, gymnasium and ground are remaining", "all utilizing" occupy the half. Subsequently, "un-utilizing" type's case number is 12, "main building + gym" and "gym" type are each three cases and "main building + ground" type is one case. About the type of "main building and ground are remaining", "all utilizing" and "un-utilizing" type are each two cases and simple substance utilization of "main building" is one case and in case of "gymnasium and ground are remaining" type, "All utilizing" type occupies four cases.

From the case distribution, main building, gym and ground" are remained and "all utilizing" type (19 cases) is named "all the facilities use type" and "main building, gym and ground" are remained and uses "main building + gym or ground" type and "main building and ground" are remained and "main building or main building and ground are used" type (7 cases) is named "main building use type". Moreover, the cases that "main building, gym and ground" are remained and only "gym" is used and the cases that "gym and ground" are remained and used both is named "gym use type". The unutilized facilities (14 cases) are named "unutilized facility type" and the facilities disassembled all after closing school (6 cases) is named "demolition type".

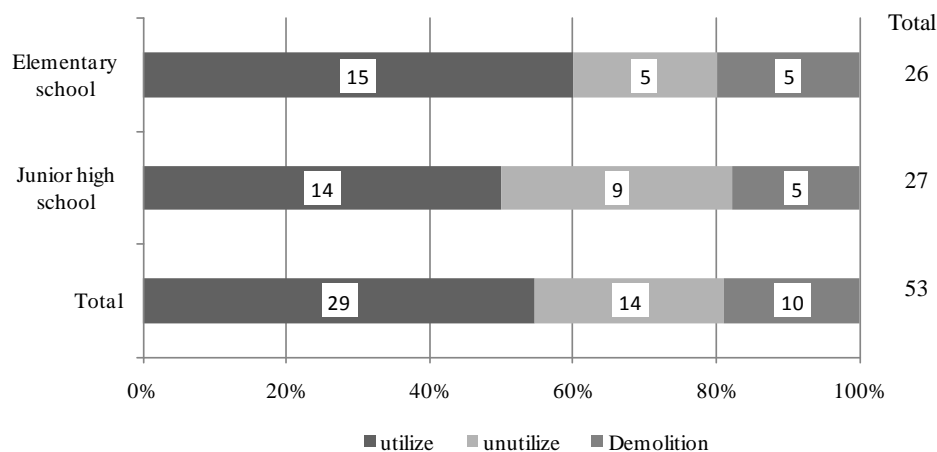


Figure 4: The practical use situation of closed facilities

Table 2: The result of cross tabulation with residual types and utilization types

Residual condition	Utilization condition	all utilizing	part use				Unutilized	Total
			Main building + gym	Main building + ground	Main building	Gym		
Main building, Gym, Ground	All the facilities use type	19	3	1	3	12	38	
Main building, Ground	Main building use type	2	1			2	5	
Gym, Ground	Gym use type	4	1			4	4	
Total		25	3	1	1	3	47	

#### 4.2 The Basic Information of Facilities and the Reason for Utilization

The construction period and structure of school building for every management type are shown in Table 3. In both "all utilizing" and "main building use" type, the main buildings built after the 1980s occupy more than the half. On the other hand, about the "gym use type" which has disassembled the main building, the cases built in the 1950s get majority. About "the facilities unutilized type", buildings built before 1960s occupy more than the half and the "facilities demolition type" is altogether built before 1960s. From these facts, in case of construction period is comparatively new, the tendency that the school building is utilized is existed. About the structure of main building, RC is occupied 68 percents in "all utilizing type", and in the "main building use type", RC commands the half too. On the other hand, about the "gym use type" that disassembled the main building, the structure is occupied 71 percents by wood so there is a tendency to exclude old wooden building and to utilize only gym and ground. In case of "unutilized type", the structure of RC occupies 64 percents (wooden 36%), but the rate of construction period is 1960's. The "facilities demolition type" occupies 68 percents of wooden structure.

The reason of practical use of closed school is shown in Table 4. There are many preservation requests (the whole half) from the local residents and the use requests by public body, and it is the precondition of closed school use and the improvement cost of the building is the condition to judge reuse too. Next, the reason of non-use of closed school is shown in Table 5. The decrepitude of school building accounts for the rate more than 73 percents and subsequently, bad condition occupies 45 percents. In addition, the reason that "there is no request of practical use" exists in 4 cases (36 %).

Next the organization concerning the examination is shown in Table 6. There are many cases that the local residents had been concerned with examination with the school board in case of reuse. In case of "all utilizing" and "main building use" type, the rate that the property administrative department office and other department offices are involved in is high, but the rate is low with "gym use type" so much organizations has been involved in the use for main building. On the other hand, in case of "unutilized facility type", local resident's relation rate is only 27percents. From this facts, it is imagined that the local resident's relation is effective to the reuse of school facilities.

**Table 3: Construction period and structure of school building**

Construction period, Structure	All the facilities use type				Main building use type				Gym use type			Unutilized facility type			Facilities demolition type			Total	
	W	S	R	Total	W	S	R	Total	W	R	Total	W	R	Total	W	R	Total		
1950s	3			3					4		4	2		2	4		4	13	25%
1960s			3	3	1		1	2	1	1	2	3	4	7		2	2	16	30%
1970s			3	3			1	1					1	1				5	9%
1980s			4	4	1	1	2	4		1	1		4	4				13	25%
1990s	1	1	3	5														5	9%
2000s	1			1														1	2%
Total	5	1	13	19	2	1	4	7	5	2	7	5	9	14	4	2	6	53	100%
	26%	5%	68%	36%	29%	14%	57%	13%	71%	29%	13%	36%	64%	26%	67%	33%	11%	100%	

\* When there are two or more construction period in one school, I analyzed in the newer one.

\*W-Wood, S-Steel, R-RC

**Table 4: Reason of practical use of closed school**

The reason for utilization	Voice of the preservation from a local resident	The request of utilization by public body	A scale suitable for the utilization purpose	Conditions of location are good	A building is new and modification expense was cheap	There were few legal restrictions	Securable of funds was easy	Others	Unknown
All the facilities use type	8	3	3	2	3		3	2	
Main building use type	5	2		1	1	1			
Gym use type	4	1				1		1	2
Total	17	6	3	3	5	1	3	3	2
	52%	18%	9%	9%	15%	3%	9%	9%	6%

\* Include multiple answers.

**Table 5: Reason of non-use of closed school**

The reason for unutilizing	No request of utilization	Decrepitude of a building	Funds are not securable	Conditions of location are bad	The decrease in population and aging of the area	Others
Unutilized facility type	4	8	2	5	2	3
	36%	73%	18%	45%	18%	27%

\* Include multiple answers.

**Table 6: The organization concerning the examination**

The organization concerning the examination	School board	property administrative department office	Other departments offices	Local resident	Other municipal corporations	Private enterprise	others	Unexamined	Unknown
All the facilities use type	17	12	7	14		3			2
Main building use type	5	4	4	5					1
Gym use type	5	1	1	4					2
Total	27	17	12	23		3		3	2
	82%	52%	36%	70%		9%		9%	6%
Unutilized facility type	9	3	6	3	1	3	2	1	
	82%	27%	55%	27%	9%	27%	18%	9%	

\* Include multiple answers.

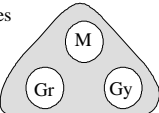














### 4.3 The Function of Facilities

The combination of facility function is shown in Fig. 5. The "all utilizing" type includes the facility of new construction period and the one of RC structure, so the various use has been made. There are most cases that utilize all facilities as a school (6 public schools, 1 correspondence course high school). Large-scale modification for conversion is unnecessary, and the school plant is utilizable as it is, so it can be mentioned the most rational conversion method. Compared with other types, the reason of few requests for preservation by local residents is that there is much conversion as new school. Subsequently, the cases that utilize gym and ground as the physical training facility are many (7 cases). The main building is used for warehouse, experience exchange and social education facilities, or welfare facilities. From these trends, it is thought that the function changes with the state of building, autonomous plan or requests of the area. In addition, the example that uses the gym and ground as the facility of new public school, and the example that uses school building for social education facilities

and uses gym for physical training facility and uses ground for local open institution were existed.

About the “main building use type”, because the construction period of building is new and structure is much of RC, it is the type that main building is utilized well. As for the feature, there are 4 cases that are utilizing the building as experience exchange facilities. Also in the management subject, the private enterprise gets a majority. Other use is various as public school, local opening facility, office, warehouse etc. On the other hand, “gymnasium use type” included many facilities that the construction period of building is old, and the structure is mainly wooden, therefore the case that the main building had disassembled exists inside. The use is much as the physical training facilities because of the gym. Otherwise, the utilization as the social education facility was existed. About the "unutilized facility type", although half of the construction period is 1960s, there are 9 cases of RC. The reason of non-use is the decrepitude of building, but to see the organization for the examination of utilization, it turns out that the local resident's participation to the closed school use is little.

As mentioned above, the conditions of buildings such as construction period and structure of facilities are greatly related to the use or non-use of closed school. Furthermore, it was shown that the local resident's request to use and the way of relation are also related.

All the facilities use type(19examples)		Main building use type(7examples)		
10examples  Other public schools(6 examples) Social education facilities(1example) Socio-physical training facilities(1example) Experience facilities(1 example) Communication system high school (1example)	7examples Warehouse etc(3examples) Experience facilities(1example) Social education facilities(1example) Elderly-people welfare facilities(1example) Release for the area(1example)  Sociophysical training facilities(7 examples)	1example  Warehouse etc	1example  release for the area	1example  Experience facilities
		2examples  Other public schools (1example) Experience facilities (1example)	1example  Experience facilities  release for the area	1example  The office of a chamber of commerce
1example  Warehouse etc  Other public schools	1example  Social education facilities  Socio-physical training facilities  Release for the area	Gym use type(7examples)		
		4examples  Socio-physical training facilities (1example) Unknown(3 examples)	3examples Socio-physical training facilities (2 examples) Social education facilities (1example)	

\*M-Main building Gr-Ground Gy-Gym

Figure 5: The combination of facility function

## 5.0 CASE STUDY ON THE TYPICAL REUSE FACILITIES

In order to grasp the background of use, management method and the space composition of facilities, 1 case of all the facilities use type and 5cases of school building use type were selected as the typical case for the survey, and the hearing investigation was conducted. The outline of each case is shown in Table 7.

In *Suo-Oshima* island where the "Oshima nursing vocational school" locates, nurses cannot gather easily because of the remote district. Although the semi- nurse training school was established and managed, it was closed down in 2001. Then, the installation plan of the nurses' training school was formulated again. The building place was scheduled at the island entrance part with convenient traffic condition. But the site for new school was not found. Since an elementary school was determined to close at such time, they changed into the plan to utilize the closed school. The elementary school was repaired as a nursing vocational school, and the ground was prepared and utilized as parking lot and tennis court. In addition, two student dormitories, dining-room and multipurpose hall were constructed newly. The extension-and-alteration construction accompanying the use conversion has taken 364 million yen.

In case of "*Hidamari-no-Sato*", after the determination of an elementary school, use proposals such as experience facilities, welfare facilities or tourist home were discussed in the deliberations by local residents and administration. In order to correspond to the increase of elderly people's welfare service demands in the area, it was determined to utilize as the welfare facility for elderly. Large amount of modification expense for conversion was required, so the new construction would be cheaper, however the request of preservation and reuse was strong by the local residents, it became performing internal modification of the existing building and utilizing. The main modifications were sprinkler

installation, exchange of toilet bowls, elevator installation, bathroom establishment etc. The local government had paid the repair cost of 140 million yen. The school building is used as elderly people's group home, day-care service facility, short-term stay facility and care prevention facility, and gymnasium and ground (common use with junior high school) are used as the socio-physical training facility.

In case of "*Tachibana-Town Fureai-kankoro-gakuen*", the elementary school was closed down immediately after reconstruction in 1993, so the reuse method was discussed. In *Suo-Oshima* town, there are many elderly people who are engaged in agricultural work. However, according to the result of an investigation, the elderly people who are not engaged in agricultural work tended to shut themselves in home, and bedridden elderly and old people disease had been induced was reported. Therefore, for single life elderly people's preventive measures for health, or unwinding feeling of social isolation, the elementary school came to utilize as the non-nursing care insurance person's day-care service facilities.

Only the main building is utilized in this case. In order to convert to the day-care service facility, handrail, bathroom and dining-room were newly established and salon (room for refreshment) and toilet were also repaired. Modification cost was about 49 million and it was made the most of the subsidy due to the care prevention foothold repair project of the nation.

In case of "*Keigan-Fureai center*", the resident group became the promoter and launched "*Keigan promotion society*", and they had used the closed school as a meeting place of the area. Named it "*Keigan-Fureai center*" in 1992, they positioned as the regional improvement base, and had been performing exchange activities with other areas. But it was difficult to stay at the existing facilities, so they made an entry of the "Home country C&C model project" of Ministry of Construction from 1993, and obtained the subsidy about 150 million yen. Therefore, roof modification of the building, establishment of multipurpose hall, bathroom, ground-camp facility and outdoor lavatory etc. were performed, and opened in April, 1995.

After the establishment, in addition to youth's outdoor activity and school, lifelong learning and volunteer rearing, this facility had been utilized as staying and resort facilities by the school board jurisdiction. But in late autumn and winter season, there were little stay utilization, and the request of meal offer increased. Therefore, the management of dining-room was started in 1996.

The contents of activities were various by such business deployment, and it had exceeded the range of social education administration, Then they launched the corporate body in 1999, and they are carrying out the management based on the designated manager system from 2006.







In case of "*Tiikouryu-no-sato*" , the representative of "*Yu-su no sato*" and "*Society for keeping Nishikigawa's nature*" participated in the meeting of agriculture and forestry office, and they proposed the reuse of closed school. Then, the opinions of both who were exerting themselves for regional vitalization were agreed, and the understanding of administration was also obtained. In this way, the closed school came to be utilized as the experience exchange facilities "*Tiikouryu-no-sato*" . Although the roof modification of the leak-in-the-roof portion was performed by local government, other reinforcements of second floor wall and installation of toilet fittings were performed by the subsidy of about 200,000 yen. It is utilized as the place of event holding for local exchange, and the school building serves the activity base of the area.

"*Kiwano-yakata*" was used as the place for activity of residents after the suspension of school. The residents of three villages are the graduates of the school, and the attachment to the school building is strong. The closed school became the activity base simultaneously with inauguration of "*Kiwanosato-ni-tudoukai*" that was organized by residents and aims at regional vitalization. Although it was borrowed from the city with no rental cost in December 2008 and the secretariat of society was set in the building, the repair work has not performed yet. The main building and ground are utilized as the place of resident's activities and urban rural exchanges through a year, and this facility has been functioning as activity base facilities of the society.

Like this, in case that the private association manages an autonomous closed school use enterprise as commission business (case 2, 3, and 4), and in case that local government turns into the management subject and utilizes the facility in order to solve the area problem (example 1), although the modification expense for conversion is a large sum, it is pointed out as the feature that the subsidy was introduced and large-scale modification was performed. On the other hand, in case that the private

association borrowed the building by the debits and credits contract with no rental cost and utilizes the facility by local resident's request (examples 5 and 6), large scale modification was not performed and the utilization as the base of local exchange activities is main.

**Table 7: The outline of each case**

Facilities name	Main building use type	All the facilities use type			Main building use type		
	Example 1: Oshima nursing vocational school	Example 2: Hidamari-no-Sato	Example 3: Tachibana-Town Fureai-kankoro-zakuen	Example 4: Keigan-Fureai Center	Example 5: Chikikouryu-no-sato	Example 6: Kiwano-yakata	
Picture							
Basic information of facilities	Location	Suo-Oshima town	Abu city	Suo-Oshima town	Mine city	Iwakuni city	Shimonoseki city
	The old school name	Okurabigashi elementary school	Uda elementary school	Yura elementary school	Keigan elementary school	Tennou elementary school	Kutuwai branch school
	The year the school was closed	1996	2009	2001	1991	1998	2008
	Utilized facilities	A school building and a ground	A school building, a gymnasium, a	A school building	A school building and a ground	A school building and a ground	A school building and a ground
	Structure and stories	2 stories of RC	Main building: 2 stories of RC Gymnasium: 2 stories of steel	1 story of RC	1 story of wooden	2 stories of wooden	1 story of wooden
	Construction year	1984	School building: 1997 Gymnasium: 1991	1993	1956	1953	1961
	Plotage (sq m)	7,731 (include rented ground 6,501)	3,481	7,079 (inside rented ground 2,705)	1,680	—	1,832
	Total of floor area (sq m)	1,457	1,687	880	527	—	188
	Utilization purpose	School of nursing	Elderly-people welfare facility, Socio-physical training facility	Elderly-people day-care service, Public hall	Experience exchange facility, Staying facility	Experience exchange facility	Experience exchange facility
	Establishment year	2000	2010.4 (part 2010.11)	2002.4	1995	2007.4	2008.12
The outline of facilities	Management subject	Public enterprise office	Abu welfare society, School board	Social welfare council	Private enterprise	Private enterprise	Private enterprise
	Possession of a building	Publicly managed company office	Town	Town: School board	City	City: School board	City
	The contract method	—	Designation management system	Administrative task consignment contract	Administrative task consignment contract	Loan for use	Loan for use
	Modification expense	354 million yen	About 140 millions yen	About 49 million yen	About 150 million yen	About 200,000 yen	no modification
	Installation:	Be.	Be.	Be.	Be.	Be.	Nothing
	Management:	Nothing	—	Nothing	Be.	Be.	Nothing

## 6.0 CONCLUSIONS

- 1) The reuse rate of closed school facilities was 55%, the rate of unused was 26% and the one of disassembled was 19% in Yamaguchi Prefecture. Especially, the type that main building, gym and ground are utilized all occupies 58% of utilizing facilities and there is much use as the new public school or social gymnastics facilities without conversion. Therefore, it is pointed out that the use method requiring no repair cost is common. Moreover, many messages to preserve were mentioned by the local residents in case that closed school facilities are reused.
- 2) The facilities that the use change was made had been performed the large modification. In the cases, the subsidy was also introduced into the modification expense accompanying use conversion. On the other hand, in case of private association's management by the request of local residents and the debits and credits contract with no rental cost, large-scale repair of building had not been performed and used as the activity base of the area.
- 3) The rate of unused facilities is over 30%. As the main reason, the problem of preparing the fund for conversion and the progress of decaying of facilities constructed before 1960s are pointed. Moreover, it is pointed out as one of the causes that there are few opportunities for local residents to participate in the examination of closed school utilization.

From the above results, there are some advanced cases that private associations and administration cooperated together, and they performed the large-scale conversion by investing a lot of money including the subsidy etc. On the other hand, there are contrastive cases that the private association is performing management independently, so the acquisition of modification expense is difficult and as the result the usage is also restricted. Therefore, it is the subject to realize the cooperative management system with administration and private associations to promote the effective use of the facilities with conversion by the improvement.

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