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The Story of Asahiyama Zoo

Asahiyama Zoo is located on the northernmost island of Japan, Hokkaido. After years of operational difficulties, it has successfully turned itself around to the point that its admissions in some months now surpass those of Ueno Zoo in Tokyo. Ueno Zoo is Japan's oldest (over a century) and most famous zoo. Asahiyama Zoo's success story has been made into a movie and is regarded as a fundamental business model from which all enterprises have something to learn.

Prologue – the Penguin March

On this day the weather of Asahikawa City registers a high of minus 4.2 °C (24 °F), a low of minus 13.8 °C (7 °F). It is snowing, which is nothing unusual in this part of Hokkaido, the northernmost island of Japan. What is not so ordinary, however, is that a huge crowd has gathered at the center of Asahiyama Zoo. Yes, people are visiting a zoo in a below-freezing weather. From young children to senior citizens, all bundled up in winter coats and parkas, they eagerly await the spectacle about to happen. Children's eyes twinkle in anticipation while their parents have cameras ready. Someone shouts, "Here they come!"

Here come the King Penguins, trotting happily with zoo keepers in tow. Totally unconcerned by the cheering crowd, these waddlers happily carry on with their daily walk. For them, the daily exercise walk is nothing new; it has always been a part of their routine. What is new, however, is that since 2003 the public gets to see this exercise, which used to be confined to off-hours.

When these penguins first walked on the "red carpet" five years ago, little did they know of the hopes that were being thrust upon them. They were going to save the zoo from a crisis. It was only the beginning of what would later be recognized as an unprecedented revival and growth of the enterprise.



Figure 1 Marching Penguins

(Source: <http://www.afpbb.com/article/life-culture/life/2567129/3749328>)

Asahiyama Zoo – Past and Present

Asahiyama Zoo is located in the northern Hokkaido, which is the northern most island of the Japanese string. The strait between the northern tip of Hokkaido and the island of Sakhalin forms the Russian-Japanese border. See Exhibit A for further information on Hokkaido and its history.

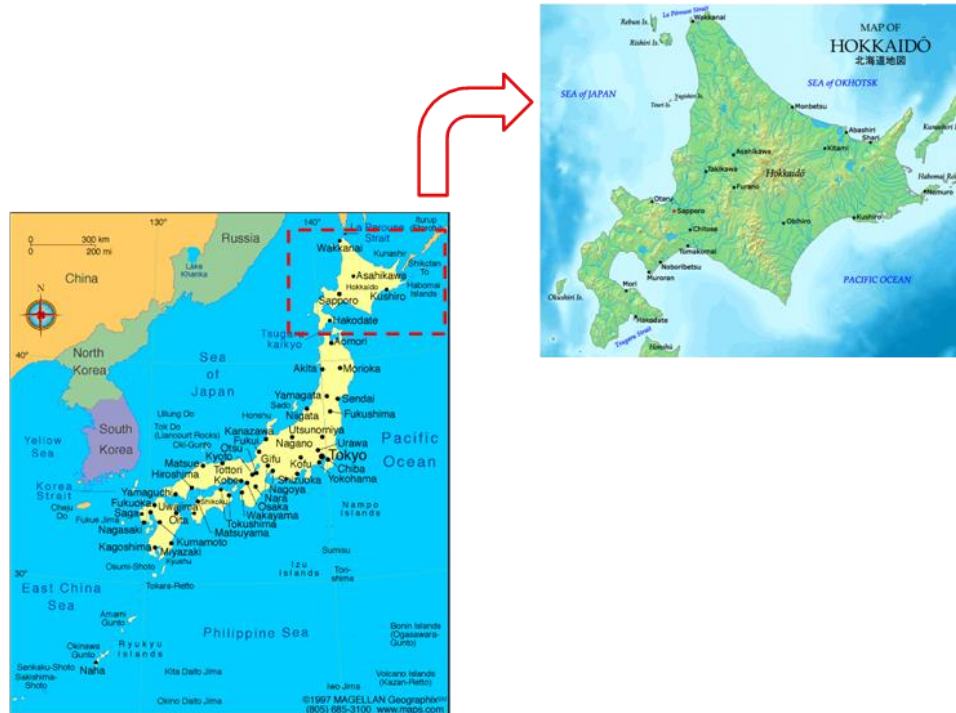


Figure 2 Japan and Hokkaido
(Source: <http://www.infoplease.com/atlas/country/japan.html>)

Asahiyama Zoo's official name is Asahikawa City Asahiyama Zoological Park and Wildlife Conservation Center. It is a municipal zoo under the jurisdiction of the City of Asahikawa. Asahikawa is the second largest city in Hokkaido, following Sapporo which is the island's capital. As of May 2009, Asahikawa City's population is estimated to be 354,618.¹

Inception through 1983

Reflecting the general state of Japan's rapidly expanding economy and accompanying public enthusiasm, Asahiyama Zoo opened with fanfare on 01 July 1967, three years after the project funds were committed. The project was based on municipal surveys and had a strong endorsement from several citizen and youth groups. Its construction took approximately one year to complete. The opening ceremony was attended by some 300 special guests, including dignitaries from overseas. There were some 75 species of animals featured at that time, and some of them still lived when the zoo celebrated its 40th anniversary in 2007.²

¹ Source: http://www.city.asahikawa.hokkaido.jp/files/soumu_soumu/toukei/jinko_sassi/all_h21_5.pdf

² Source: [http://210.148.92.65/koho/Asahikawa City Newsletter こうほう旭川市民H21.5月号](http://210.148.92.65/koho/Asahikawa%20City%20Newsletter%202007.5.pdf)

Also noteworthy during this period is that the zoo undertook and successfully accomplished Japan's first captive breeding of a polar bear. The newborn male was named "Koro." Later, he was attacked and injured by his father and lost a leg as a result. He continued to live and entertain visitors on three legs.

In 1979, the zoo started installing amusement features such as a roller coaster. This was well received at first but began to divert the visitors' attention from the animal exhibits. This, as both Masao Kosuge – Director – and Gen Bando – Assistant Director – later recount in their respective publications, led to the zoo's loss of identity. Nevertheless, at that time, many zoos were trying similar approaches in an attempt to entertain Japan's young baby-boom population. Years later these entertainment features were eliminated upon renovation of the entire facility.

As Asahikawa City began to grow, the zoo admissions continued to increase. In 1983, they reached approximately 590,000.

The crisis: 1984 – 1996

After the admission's peak of 1983, however, a decline began. In 1994, two animals – a Western Lowland Gorilla and a Ring-Tailed Lemur – contracted echinococcus from the surrounding wildlife and died. This necessitated a temporary closure of the zoo, fueling a further decline in zoo admissions. In 1996 the number of visitors hit its record low of 260,000.³

Recovery and turnaround: 1997 – present

By then, the zoo faced the possibility of imminent closure. While the echinococcus incident no doubt was a setback, the decline in zoo admissions followed a general trend that was seen nationally. In 1975, there were a total of 13 municipal zoos with combined yearly admissions of 22,996,707. In 1988, even with the addition of two new zoos (Chiba City Zoological Park and Yokohama Municipal Kanazawa Zoo), the combined admission level declined to 19,793,187.⁴

Under the direction of Masao Kosuge, the zoo director, Asahiyama Zoo began implementing a number of measures. These ranged from low-cost changes that required little or no additional expense to those involving major capital expenditures. The admissions started to rise and in 2004, the zoo logged 1,450,000 visitors. This number includes the admission figures for the months of July and August during which the number of visitors exceeded that of Ueno Zoo. Ueno Zoo is located in Tokyo – which has a far larger populace than the entire Hokkaido's – and is Japan's oldest and the most famous zoo. Further, in 2005 the Asahiyama admission figures for July, August, and September again exceeded those of Ueno.⁵

When assessing "profitability" of a public zoo in Japan, personnel costs are typically excluded. This is because zoo staff members are city employees, and their salaries are included in the municipal government's overhead costs.⁶ Therefore, whether or not a zoo is operating in the black is a result of a straight calculation taking the gross revenues and deducting operating expenses that do not include staff's salaries. As of 2008, Asahiyama's books for the last three consecutive years were in the black. Further, even if the zoo's personnel costs had been included, the end result would still have been a positive bottom

³ Source: http://en.wikipedia.org/wiki/Asahiyama_Zoo Asahiyama Zoo

⁴ Kosuge, M. (2008). 旭山動物園 革命—夢を実現した復活プロジェクト [*Asahiyama Zoo Revolution: A revival project that realized the dream*] (11 ed.). Tokyo: 角川書店 [Kadokawa Shoten].

⁵ See Footnote 4

⁶ Bando, G. (2008). *A Zoo of the Dream: Asahiyama Zoo's Future 夢の動物園 旭山動物園の明日*. Tokyo, Japan: Kadokawa

line. Of the 90 zoos that belong to the Japanese Zoo and Aquarium Association, Asahiyama is believed to be the only public zoo that is showing profitability.⁷

Today, partially aided by Ueno Zoo's decline in admissions – which was triggered by the deaths of its Giant Pandas – Asahiyama's admission level is fast approaching that of Ueno Zoo. This is in spite of Asahiyama's not having "exotic" attractions such as Giant Pandas. Ueno Zoo now sends staff to Asahiyama to learn the best practices and knowledge needed to turn around its operation. See Exhibit B for Asahiyama Zoo's latest operational data.

Zoos and Wildlife Tourism

One way to see zoos is to frame them as a form of wildlife tourism. Zoos, in fact, represent a major element of this industry.

Wildlife tourism is a form of tourism in which visitors interact with animals.⁸ This includes, but is not limited to, zoo visits.⁹ Wildlife tourism is a "tourism based on encounters with non-domesticated, non-human animals" and can be classified into four major categories: wild-life watching, captive-wildlife tourism, hunting, and fishing.¹⁰ Zoos belong to the second category, captive wildlife tourism.

So, why do people participate in wildlife tourism?

One reason commonly cited by many sources is that the urbanization of human habitats drives people back to nature. Half of the world's population now live in cities, and it is no coincidence that we now have more areas in which wildlife is protected by law than any other time in history. Sustainability, in other words, is directly related to wildlife tourism.

Wildlife tourism is concerned with visitor-wildlife encounters. Participants in wildlife tourism seek these encounters in one form or another. The type of encounter a potential participant seeks determines the kind of wildlife tourism in which he or she chooses to participate. Wildlife tourism involves many participants: from the visitors to the wildlife to the operators / managers. It makes sense, therefore, to manage any form of wildlife tourism in an integrated way in order for the venture to be successful and sustainable. This warrants holistic, systems-based thinking.

Wildlife tourism can generate substantial economic benefits, with as much as 20 to 40 percent of international tourism being attributed to wildlife encounters; this translates into US\$47 billion to US\$155 billion in 1988 dollars.¹¹ Of that, zoos appear to be the number-one wildlife tourism venture, attracting approximately 600 million visitors globally in 1993.¹² It is not certain, however, how much of that zoo traffic is due to out-of-the-area tourists as opposed to local residents. This is an important point to be recapped later as we discuss zoos further.

⁷ Bando reports there were 90 zoos and 67 aquariums that belonged to the Japanese Zoo and Aquarium Association in 2008.

⁸ Higginbottom, K. (2004). Wildlife Tourism: An Introduction. In K. Higginbottom (Ed.), *Wildlife Tourism: impacts, management and planning* (pp. 1-14). Altona, Australia: Common Ground.

⁹ Other forms of wildlife tourism are scuba diving on coral reefs, wildlife safaris, hiking, whale watching, bird watching, big game fishing, and trophy hunting.

¹⁰ See Footnote 8.

¹¹ Ibid.

¹² Ibid.

Zoos around the world

Zoos are perhaps the oldest form of wildlife tourism.¹³ The concept of a zoo – which is an abbreviation for “zoological park” or “zoological garden” – goes quite far back in history. Documented cases include a zoo in Alexandria founded by Ptolemy I (323 – 285 BC) of Egypt, as well as what is commonly referred to as “Garden of Intelligence” built by the founder of the Zhou dynasty (ca. 1000 – 200 BC) in China.¹⁴ These establishments, however, were only for the enjoyment of the privileged few. In the 18th century, the active movement to scientifically classify animals was beginning. This led to the development of taxonomy and zoology as academic disciplines. About the same time, societal changes increased the power of the non-ruling classes. More and more, ordinary citizens started to frequent zoos. Zoos were no longer recreational facilities reserved exclusively for people of power or money.

The zoos began transitioning from menageries of the ruling class to being open-to-all in the late 18th century. The first of such zoos was opened in Paris in 1793. Soon, London, Amsterdam, and Berlin – and later New York – followed suit. These zoos, in addition to providing public animal displays, also had as their mission the support of scientific endeavor and public education. Soon more establishments followed, and zoos continued their development for the next hundred years.

In 1960s, another shift occurred. By then, many zoos found themselves “old-fashioned, badly run, and out of touch.”¹⁵ Zoos had to reassess their positions. Just as any other enterprise, their survival depended on continuing to be a relevant part of society. Around that time, the world was starting to become more aware of environmental and animal welfare issues, especially those in developing countries. Zoos responded to these concerns by positioning themselves as key participants in the effort to preserve these natural resources. In summary, having started as menageries for the rich, zoos first established themselves as places for education and later started to transform themselves into conservation centers. This evolutionary pattern now characterizes most zoos in the Western world.¹⁶ With the evolutionary shifts in zoo’s role, zoo’s exhibit style has also gone through changes:

- In the 18th and 19th centuries: Mostly barred cages
- In the 20th century: Larger, more open enclosures surrounded by moats to replace barred cages
- Mid 20th century forward: More naturalistic enclosures seeking to replicate aspects of natural habitats

Today exhibit styles continue to develop, combining technology and new construction techniques to create more immersive experiences for the visitors.

Zoo’s challenges

Why do people go to zoos? What distinguishes zoos from, say, experimental laboratories or theme parks?

Studies done on the motives of visitors – at least those done in the US, the UK, and Australia – point to two major elements: recreation and education, especially for children. Zoos appear to occupy a very unique niche where education and recreation blend to provide a place for an outing involving young

¹³ Tribe, A. (2004). Zoo Tourism. In K. Higginbottom (Ed.), *Wildlife Tourism: impacts, management and planning* (pp. 35-56). Altona, Australia: Common Ground.

¹⁴ Kosuge, M. (2008). 旭山動物園 革命—夢を実現した復活プロジェクト [*Asahiyama Zoo Revolution: A revival project that realized the dream*] (11 ed.). Tokyo: 角川書店 [Kadokawa Shoten].

¹⁵ See Footnote 13.

¹⁶ Ibid.

children. Additionally, zoos are unique among wildlife tourism destinations in that most visitors to zoos tend to be local residents, not tourists, according to studies done in the West.

Many challenges confront the zoos today. Even though they have been a popular and traditional part of society, their future is by no means guaranteed. According to several sources, modern zoos are facing a major quandary: balancing efforts to attract and entertain their visitors while pursuing their other objectives of education, conservation, and research. Many zoos, at least in the Western world, are seen to be “traditional and old-fashioned with little scope for change, competing with innovative and exciting new destinations in the tourism industry.”¹⁷ Further, societies in general have become more sensitive to the welfare of captive animals, while at the same time the role of zoos in conservation is yet to be fully defined or understood.

Regardless, zoos must continue to satisfy the needs of their societies. If people see no value in visiting a zoo, there is no reason for zoos to continue their existence. Zoos are very expensive businesses. In particular, the more a zoo leans toward conservation, the costlier its operation tends to be. It is not rare for a zoological center to experience difficulty generating income. Several zoos in the UK closed down in the 1990s because of lack of visitors and revenues. Also, zoos – just like any enterprise – can be adversely affected by external factors such as the general state of economy, weather, competition from other tourist attractions, and the outbreak of diseases (e.g., the Foot and Mouth disease in UK in 2001). It is no accident that many zoos today are using a number of non-traditional means to generate additional funds such as after-hours special events, behind-the-scenes tours, and corporate and private functions such as picnics and weddings. Such initiatives, made popular in the US, are starting to become normal parts of zoo operation in other parts of the world.

In conclusion, zoos today have multiple stakeholders and many challenges, including balancing potentially conflicting objectives. Just as in any enterprise, it is absolutely essential for them to stay in touch with the constituents that they serve and adapt to their changing expectations.

History of zoos in Japan

Zoos are a relatively new concept in Japan, and their establishment and evolution coincide with the two historical periods during which the country carried out rapid industrialization.

In many ways, opening of zoos was a part of Japan’s attempt to modernize and be like the West.¹⁸ Consequently, zoos were implemented in such a way as to mimic the Western world – just as Japan did in so many other things. Japan’s first zoo was Ueno Zoo, formerly called Tokyo Metropolitan Ueno Zoological Garden. It was opened in 1882, during the Meiji Restoration period, as auxiliary facility to Ueno Museum. Both the zoo and the museum still exist and continue to be regarded as prestigious Japanese cultural institutions.

As Japan entered World War II, keeping zoo animals became increasingly difficult. Towards the end of the war, Japan’s military government commanded that all zoo animals be destroyed, mostly for fear that continuing bombing would lead animals to escape and cause havoc. Later, the country became so devastated that keeping animals was out of the question when people were starving.

¹⁷ Tribe, A. (2004). Zoo Tourism. In K. Higginbottom (Ed.), *Wildlife Tourism: impacts, management and planning* (pp. 35-56). Altona, Australia: Common Ground.

¹⁸ Bando, G. (2008). *A Zoo of the Dream: Asahiyama Zoo's Future 夢の動物園 旭山動物園の明日*. Tokyo, Japan: Kadokawa

After the end of the war, there were no zoo animals in the country except for the two Indian elephants in Nagoya (Japan's third largest metropolitan city located just under 200 miles southwest of Tokyo) saved by the zoo keepers who had taken every measure possible – including cultivating a patch of land – to protect and feed the elephants. Prior to the war, there had been a total of 20 elephants in the country.

Japan surrendered in 1945, and years of hardship ensued. In 1949, even though the war had technically been over for several years, lack of food and basic goods still persisted. This was when “elephant trains” were organized. The national railroad arranged special trains to transport children to see these remaining elephants in Nagoya. Over 30,000 children, with accompanying adults, rode these trains to go see the elephants. Exhibit C provides additional supplementary information on this phenomenon.

Eventually, Japan's post-war economy took on a new start, and the country was becoming more and more prosperous. During that time, zoos were built all around the country, creating the so-called “zoo boom.”¹⁹ It should be no surprise that this coincided with Japan's baby boom. The country, from the demographic point of view, was young and was charging ahead in its economic recovery and expansion.

In the early days, people were happy to see lions and tigers and other “exotic” animals. This was the time every rare animal to arrive in Japan immediately captured public attention. However, the more one has, the less rare things become. Soon, elephants and lions were no longer rarities (even though neither species is native to Japan). The definition of “exotic,” as a result, changed considerably to mean something not every zoo had – such as otters, Koalas, and Giant Pandas.

Furthermore, as the country became wealthier, other channels of entertainment became available as well. Coupled with that was a decreasing birthrate, resulting in a decline of the number of children in Japanese households. In the 1990s, zoos were starting to see a drop in admissions, and some were forced to shut down as a result. Some also attributed the unappealing way the animals were exhibited – confined in small and unattractive cages – to the loss of zoo popularity.

In recent years, however, Japan has started to witness a renewed interest in zoos.²⁰ Asahiyama Zoo, which has employed innovative methods of showing the animals in such way as to “bring out their best,” is responsible in no small part for bringing about Japan's zoo revival. Other zoos are following its lead to implement better ways of exhibiting their animals.

From the visitors' perspective, zoos are changing from what was once seen as recreational facilities for children to places where both children and adults can enjoy learning about animals. From the zoos' perspective, at the same time, their roles are changing. Starting in 1970s, wildlife conservation issues increasingly attracted the world's attention. It was estimated at that time that without intervention presently endangered species could become extinct at the rate 300 times faster than did the dinosaurs.²¹ This prompted zoos around the world, including in Japan, to re-visit and revise their missions. They started to see themselves as important vehicles to aid the preservation of endangered species.

Today, there are close to 100 zoos throughout Japan.

Gen Bando, who is the current director of Asahiyama Zoo (having succeeded Masao Kosuge in April 2009), offers his point of view on zoos in Japan. This is captured in Exhibit D.

¹⁹ Source: <http://www.tjf.or.jp/eng/content/japaneseculture/37giftsfromanimals.htm>

²⁰ See Footnote 19.

²¹ Kosuge, M. (2008). 旭山動物園 革命—夢を実現した復活プロジェクト [*Asahiyama Zoo Revolution: A revival project that realized the dream*] (11 ed.). Tokyo: 角川書店 [Kadokawa Shoten].

Japan’s Demographics and Zoo Admissions

Japan’s population is aging. The two pie charts below have been developed using Japanese census data and intend to contrast the country’s population when Asahiyama Zoo was first opened versus that of today.²²



Figure 3 Japan’s Demographic Trend

Further, Japan is now experiencing a population decline. The decreasing birth rate, coupled with the rising death rate due to the aging population, is resulting in a net decline.

The year 1967, when the Asahiyama Zoo first opened, marks the time when Japan’s population surpassed 100 million. The population continued on a growth path until 2006 when the country’s death rate surpassed the birth rate. Japan’s census data for 2008 shows the birth rate to be 7.87 births per 1,000. The death rate was 9.26 deaths per 1,000. This translates into the net population decline of 0.139%.

The table below contrasts the demographic data from 1967, 2008, and 2050 (estimates).

Table 1 Japan’s Population: 1967, 2008, and 2050

	1967	2008	2050 (est.)
Population	100,196,000	127,288,416	100,593,000
Ages 0-14	24.4%	13.7%	10.8%
Ages 15-64	69.0%	64.7%	53.6%
Ages 65 & up	6.6%	21.6%	35.7%
Median age	30.0	43.8	53.00

²² Source: Japan Ministry of General Affairs, Bureau of Statistics (<http://www.stat.go.jp/data/jinsui/index.htm>)

One of the messages from this population trend, as cited by Masao Kosuge in his memoir, is that zoos should no longer be just places for young children if they are to survive.

Asahiyama Zoo versus Ueno Zoo

The magnitude of Asahiyama Zoo's turnaround feat is best demonstrated by comparing its performance and demographic facts with those of Ueno Zoo.

Table 2 Asahiyama Zoo vs. Ueno Zoo

Asahiyama Zoo	Ueno Zoo
Acreage: 36.7	Acreage: 35.2
Population, Hokkaido: 5,583,072	Population, Greater Tokyo: ≈39,188,400
Population, Asahikawa City: 354,618	Population, Tokyo central: ≈12,770,000
Admission, 2008: 2,769,210	Admission, 2008: 2,898,191

As the table above shows, Ueno Zoo serves a far larger populace. Further,

Ueno Zoo houses over 450 species of animals on its 35.2-acres of land. It is the oldest zoo in, and is considered the flagship zoo of, Japan. Its admissions last peaked in 1974 at 7,647,440 following the arrival of its first Giant Pandas from China: Lan-Lan and Kang-Kang. Since then, the zoo has hosted successors, collaborating with zoos around the world. With the death of its last Giant Panda, Ling-Ling, in April 2008, the zoo has been without a Giant Panda for the first time since 1972. Coupled with the current economic downturn, the absence of Giant Pandas is expected to contribute greatly to further decline in admissions.

Asahiyama Zoo, on the other hand, started its operations without such exotic animals and without Ueno's prestige. Even to this day, the zoo's collection of less than 150 species does not include any rarity.²³ Additionally, its location (43°46'N, 142°29'E) and surrounding infrastructure preclude access as convenient as that of Ueno Zoo. Its northern climate brings snow and cold almost half of the year.²⁴ Yet, it attracts a number of visitors almost equivalent to those visiting Ueno Zoo.

The graph below compares historical changes in the admission levels at the two zoos since their respective inceptions.²⁵

²³ As of 01 January 2009, the zoo has 135 species which are comprised of 135 mammals, 78 birds, and 11 insects.

²⁴ As a point of reference, the Detroit Zoo is located at 42°28'36.74"N, 83°9'21.77"W.

²⁵ Source: Asahi Shimbun dated 18 April 2009

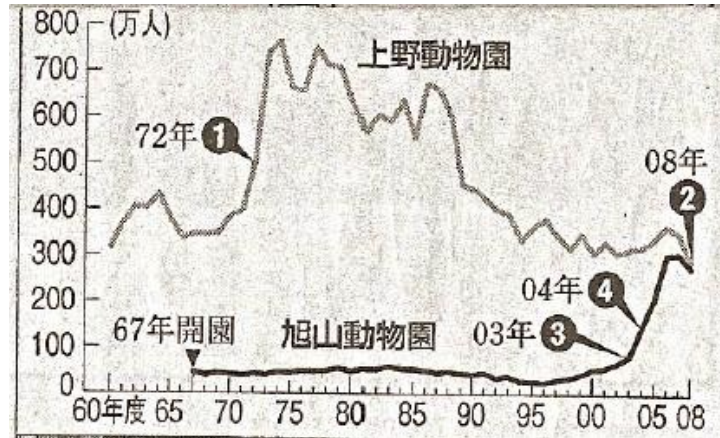


Figure 4 Ueno-Asahiyama Admission Level Comparison

The x-axis is the time period starting with 1960 and ending in 2008. The y-axis is the admission number in 10,000s. The top line depicts the changes in admissions at Ueno Zoo; the bottom line is Asahiyama Zoo's. The graph overlays the four key events that impacted the two zoos. Marked 1 through 4, they are

- Event 1: The arrival of the first Giant Pandas, Kang-Kang and Lan-Lan, at Ueno Zoo
- Event 2: The death of Ling-Ling, the last Giant Panda at Ueno Zoo
- Event 3: The start of the King Penguin March at Asahiyama Zoo
- Event 4: The opening of the new Seal Aquarium at Asahiyama Zoo

Readers can readily see the rise and fall of Ueno admission numbers after Event 1, as well as the steep upward incline of Asahiyama's following Events 3 and 4.

The core strength of Asahiyama Zoo, which sets it apart from the rest of zoos in Japan, is said to have been built upon its staff's capabilities to understand their customers' needs. Traditionally, zoo personnel considered themselves to be municipal employees whose sole functions were to take care of the facility and its animals. Many saw themselves as being more "technical" than people-oriented and initially resisted the idea of interfacing with the visitors. However, they understood the sense of urgency and the fact that their animals' lives were at stake. Everybody eventually came on board and started to think outside the box. This – rather than the innovative exhibits – built Asahiyama's present competitive strengths that earned accolades for totally changing the way zoos are managed in Japan.²⁶

Leadership

Asahiyama Zoo until recently was under the leadership of Masao Kosuge, Director. Born in Sapporo in 1948, he started his career with the zoo in 1973 after graduating from the school of veterinary medicine at Hokkaido University. He was promoted to the zoo directorship in 1995. The next year the zoo's admission dropped to an all-time low of 260,000. Amidst pressures for zoo closure, he set his staff and the enterprise on the course toward revival. In 2004, after many new measures had been implemented, he witnessed the zoo admissions reach just under 1.5 million.

²⁶ Bando, G. (2008). *A Zoo of the Dream: Asahiyama Zoo's Future 夢の動物園 旭山動物園の明日*. Tokyo, Japan: Kadokawa.



Figure 5. Masao Kosuge (left) and Penguin March (right)
 (Source: <http://www.stv.ne.jp/tv/amb/housou/index.html?idno=20090129095123>)

During the course of zoo revitalization, he coined the term “action exhibit.” It signifies the zoo’s conscious effort to move away from the traditional exhibit style to maximize viewing of animals in action. In order to do that, it was necessary to create an environment on two fronts. One, the environment had to be conducive to the animals exhibiting the desired behaviors. At the same time, the human spectators must be able to see them. All of Asahiyama Zoo’s exhibits are now designed to maximize the interaction of these two fronts. The bottom line, as noted by Kosuge, is to show the animals at their best, interacting with their environment in the way they were genetically programmed to do. That is when they are happiest; and, seeing that, people experience the utmost fascination.

Kosuge’s philosophy

In his memoir Kosuge expresses his management philosophy in the following words:

“An environment in which one can maximize his capabilities is priceless. I have come to realize that this is true for both people and animals. I presume that it applies in business enterprises as well. Assignments that maximize employees’ skills and talents will make the employees happy. This in turn energizes the company. Conversely, as the company loses enlightened people, its performance ceases to shine. The organization atrophies.”

Further, he comments on human resources:

“Star players are not needed in a turnaround endeavor. Just as exotic animals are not needed for a zoo to be successful, I firmly believe that organizations do not need exceptional performers to be successful. This, I learned when I was made captain of my college judo team. Having a star performer causes the entire team to rely on him and stop doing their share of work! I would rather have a team made up of members – albeit mediocre – that diligently work towards the team’s goal.”

On the subject of dealing with mishaps and accidents, especially in reference to the 1994 incident in which the zoo lost two of his animals due to an echinococcus infection, he comments:

“When mistakes are made, it is best to be honest about them. Do not try to hide them. Trust is re-gained more quickly if you are honest and upfront about the issue from the beginning. When we lost two animals to echinococcus, we first performed a very thorough investigation to find the root cause. We subsequently made a public announcement of a temporary zoo closure and reported that the risk to humans was dead

minimal, with all the facts and evidence that we had found. It still caused a momentary uproar, and we were bombarded with phone calls. Many parents called to ask whether it would be safe to let their children drink water while at the zoo even after it re-opened. We were overwhelmed with such public inquiries and phone calls from the city residents, but we took our time to answer them politely and thoroughly. Dealing with the uneducated media, however, was a great challenge. Many reporters, lacking scientific knowledge, wrote speculative articles not based in science or facts.”

He recalls that at that time the admission level was already on its course of decline; and shortly after the announcement of the incident, it hit the rock bottom. There were arguments for and against about making a public announcement of the echinococcus outbreak because of the state of the zoo at that time, but Kosuge has no regret for what he did. “Now that I look back these past years,” he says, “I am more than convinced that I made the right decision, although it was painful at that time. That was the right thing to do for the zoo, especially from its long-term perspective.”

Lessons learned from judo

Kosuge attributes his leadership style to many lessons that he learned while he served as captain of his college judo club. That was when he became convinced that having a star player did not help in team competition. He recalls,

“It was a challenge to lead the Hokkaido University judo team. The club was traditionally student-centric, and the players tended to be very individualistic. Without leadership oversight, the team would easily lose cohesion. At the same time, ‘Hey, I’m your boss’ approach would not work. That would only suppress individual personalities and create resentment. So, what should I do? I had to think hard.”

His strategy was as follows:

1. Establish a common goal
2. Clarify the plan of attack
3. Set the process

The goal he laid out was to win the next national college judo tournament in which seven universities would compete. He then announced to his team that the practice focus would be on grappling techniques. This is based on his analysis of past winning teams, from which he found that they all excelled in these skills. He commanded that enhancement of the grappling techniques would be the team’s top priority. Finally, he set a rule: The team members would practice with those of the same skill level. When a senior player practiced with a junior, he reasoned, it would only benefit the junior while the senior had nothing to gain.

Kosuge’s strategy was to set a few basic rules and let individual players do whatever they chose in order to achieve the team’s common goal. It proved to be very effective. More importantly, however, the team cohesion was strengthened by the two members who were initially not selected for the tournament. He recounts,

“I had two borderline members on my team who, if left alone, were not expected to make it to the tournament. I set my own objective to improve their skills to make them tournament participants. In the end, only one of them actually made it. However, two important things came out of my endeavor. First, these two players demonstrated that practice and hard work would indeed make a difference. Secondly, everybody sincerely

acknowledged, and was inspired by, the attitude of the one member who did not make it to the tournament. He delighted himself in coming to the daily practice and making efforts to diligently improve his skills.”

The team mate who did not make it to the tournament, Kosuge believes, was actually key to keeping the team together and focused. Even though this backup player did not become an official tournament participant, the entire team knew that they could count on him should any one of the regular members become unable to compete. By indirectly supporting the tournament, this player boosted the morale of his entire team.

“I firmly believe that a team on which even back-up players show enthusiasm for what they do maximizes the team’s potential. A group that is made to feel that there is no excess member makes a winning team. It is an organization in which everybody is supporting everybody. Once I set the rules, I did not tell anybody how he should accomplish his objectives. Without my laying out detailed directions, the team soon started to march in unison towards its common goal. As far as the tournament, we made it through the final then lost to Kyoto University. We became number two in nation. The learning experience that came out of the endeavor and the morale that we built along the way, though, far exceeded this ranking, I think.”

Kosuge carried this philosophy through his directorship at the zoo. His personal belief to this day is that an organization does not need a star. Even when the players’ individual abilities may be mediocre, once they are motivated to work towards a common goal, they produce spectacular results. This makes an organization strong. He says,

“Once the goals and objectives are set for the zoo, I let my staff explore their own solutions and experiment with their ideas any way they wanted. I never looked over their shoulders to see what they were doing. I never checked or proofread their work in the One-Point Guide or POP initiatives (which will be explored in more detail later). It was perfectly OK with me for them to make mistakes. The best way to learn is always by experimentation. In that connection, I actually get upset when people develop promising ideas but do not do anything to put them into action.”

On organizational dynamics, he comments:

“People are all different. Some are very innovative and constantly come up with new ideas. Some are the total opposite. They would like to make improvements but are more comfortable doing so by diligently working through problems. They want to go slow. Every organization should provide an environment in which both types of people thrive.”

Equally important, he says, is to keep in mind that people influence each other. Going back to his judo experience, he recalls having a member who had started judo for the very first time after entering college:

“This fellow, in addition to lacking experience that many of us had, did not have the right physique for the art and did not – at least in the beginning – show a promise. In three years, however, he grew to be one of the key members who led our team to winning performance. Our club’s mission was to ‘develop people who can overcome and expand their limits. So, he showed firsthand how that could be done. That greatly motivated the team.”

Kosuge ultimately concluded that what he had witnessed and learned in his judo team management experience should apply to any organization.

Knowledge creation in times of trouble

In his memoir, Kosuge repeatedly stresses that the secret of Asahiyama's turnaround success is not money. While he greatly appreciates the city's support in providing funding for the innovative facilities for which the zoo has become famous, he emphasizes that money alone would not have done it. He credits two things that were paramount to designing the facilities that the zoo has today:

1. Going back to the drawing board to re-evaluate the zoo's missions
2. Interfacing directly with the visitors through many low-cost initiatives

"Without these measures," maintains Kosuge, "we would not have generated quality ideas for our future facilities." Equally important, according to him, is "maximize value within the given limits." "Funding has limits. A relatively minor zoo such as ours will never be given funds at the level of major zoos such as Ueno or Tennōji.²⁷ So, using our scientific knowledge and knowledge gained from day-to-day work, we developed many features that would help keep our facility construction within budget."

Kosuge also credits the fact that Asahiyama operation never uses consultants. In designing new exhibits, the staff went directly to architectural firms, rather than entrusting the projects to consulting companies as do many other zoos in Japan. This, according to Kosuge, not only saves money but tends to result in better output. Consultants are not wildlife experts. Even though interfacing directly with architects is time-consuming and entails many intense discussions, it is well worth it to the staff. After all, Kosuge says, "It generates knowledge for us and the architects. It is a great learning experience for both."

Kosuge's reflection on the pre- and post-turnaround

Kosuge also emphasizes the importance of "preparing for upswing" while in downturn.

"If I am to assign a meaning to all the hardships that we went through, it was a moment of reflection. We were in a financial crunch, but the downturn gave us ample time to reflect on the zoo's operations. If we had been asked to present a plan for facility renovation, without any constraints, without going through the in-depth discussions that our staff had, I really don't think we would have created as good a zoo as we have today. Ideas need incubation and development time. It was very meaningful for us to go through rounds of brainstorming and discussion to continuously re-formulate our ideas."

In March of 2009, at age 60, Kosuge retired. He was succeeded by Gen Bando who served as Assistant Director under him and was one of the key members of his zoo revival task force.

Reviving the Zoo

One of the metrics used to gauge success of a zoo in Japan is the number of visitors. Yearly admissions approximately equal to the population of that municipality are considered to be good. From 1996 through 2008, Asahiyama Zoo's admissions showed a ten-fold increase from the all-time low to more than half the entire Hokkaido population. Critics credit the zoo's unique ways of exhibiting the animals, which allow varying degrees of interaction between them and the human observers, to its success. Every exhibit is "engineered" to show the special features of each animal species. Today, the zoo's twenty-three facilities / exhibit areas draw visitors from all over Japan.

²⁷ Tennōji Zoo is located in Osaka, the number two metropolitan city of Japan following Tokyo.

Leveraging the existing knowledge

Asahiyama Zoo's quest for revival started a few years before the admissions level hit the rock bottom in 1996 when the all-time low visitor number and years of operating in the red threatened the zoo with closure. Determined to keep the zoo open, Director Kosuge turned to the zoo's "study group." This is an Asahiyama organizational tradition that had started in 1975, two years after he first joined the zoo. It was initially a monthly social gathering of employees to provide a structured setting for experienced senior employees to coach and mentor younger employees. As years went by, this monthly event developed into a serious knowledge-exchange forum. Employees used it to report the latest status of their assigned animals, critique exhibit methods, and present findings from individual research projects. Knowledge came to be exchanged in the form of very high-quality reports and presentations.

As Director Kosuge recalled later in his memoir, this study group forum became the vehicle for putting revival efforts in motion.

Going back to the drawing board

Soon after Kosuge initiated discussion of ideas for improving the zoo's operation, the study group was meeting twice to three times a month. One of the first things that he did was to lead the organization back to the drawing board to re-examine what a zoo was about, i.e., its functions in the society. In other words, a zoo's reason for existence had to be re-defined. As a result of group discussions, the Asahiyama team came to the realization that a zoo was not just an entertainment center for young children. A consensus was reached about zoo's function as being a provider of

1. Recreation
2. Education
3. Conservational effort
4. A resource for research and scientific inquiry

From this, the staff derived several objectives that their zoo should strive to achieve. They were

- to increase public awareness of conservation issues – locally and globally
- to participate in the protection of breeding of endangered species
- to further the veterinary knowledge of wildlife

The *raison d'être* was now made clear. Based on these objectives, the organization was ready to march on to the first phase of zoo turnaround.

Idea-generation despite a lack of funds

The "action exhibit" format, the term coined by Kosuge, eventually became the differentiator of Asahiyama Zoo from its counterparts in Japan. In the early phase of the zoo revival process, constructing new facilities was out of the question under a very restricted budget. Kosuge recalls in his memoir that in the late 1980s many successful zoos in Japan were actively renovating their facilities. This was the time of bubble economy in Japan, and a funding of ¥500 million to renovate or expand facilities was not rare. Asahiyama Zoo, however, was given no budget for facility renovation during that time due to declining admissions. He is certain that of all the municipal zoos in Japan, Asahiyama in those days had the most outdated facilities.

As much as he wanted to improve facility structure, first and foremost the zoo needed more visitors. Without visitors, the zoo could not fulfill its functions or objectives. Without visitors, there would be no reason for facility renovation. Kosuge decided to first implement what he and his staff could do without additional funding.

Bringing animals closer to the viewers

Kosuge and his staff started to actively interface with the visitors to better understand their needs and expectations. Initially, Kosuge recalls, the zoo staff had difficulty understanding why many visitors found the animals “boring.” “By our profession,” he says, “we took it for granted our knowing how fascinating animals are. We did not realize, until we started talking with our visitors, that most people did not share our fascination.” In other words, there is a wide gap in knowledge between the zoo staff and the general public. The first step, he decided, was to introduce new activities that would help to reduce this gap. To do so, the animals must somehow be brought closer to the visitors.

It was, of course, not realistic to allow the general public the same level of access to animals that the zoo keepers had. What, then, could the zoo do to reduce the distance between the animals and the viewers? What could the staff do to help the public gain better understanding of the dynamics and intelligence of the animals – the way the zoo keepers know and embrace them? Brainstorming on this issue resulted in the first initiative called the “One-Point Guide.”

The One-Point Guide and initial resistance

The One-Point Guide initiative was implemented after six months of intense discussion and careful planning. It was having each zoo keeper go in front of the visitors and give a talk about his / her animals. It was intended as a form of knowledge transmission from those who knew the animals best to the lay audience. The goal was to help the general public better relate to the animals and their behaviors to thereby develop further interest in them. During this six-month planning period, however, Kosuge had to overcome the initial resistance and concerns voiced by the zoo keepers about the idea. The initial objections were

- “I am shy. I cannot even think about going in front of a crowd.”
- “That is not my job. My job description does not include public speaking or entertainment.”
- “I don’t like dealing with people. The reason I took this job in the first place was so I did not have to work with people.”

Despite resistance from his zoo keepers, in the end Kosuge convinced them to try. Initially hesitant, once they agreed to give it a try, all the zoo keepers set out to perform their new tasks the best they could. Some prepared their speeches ahead of time and practiced in front of their wives and children. Some prepared hand sketches, clay figures, and other visual aids to help them enhance their presentations. Soon, the zoo keepers were actively engaged in their new duties. They learned quickly what worked and did not work in conveying information about their animals. For example, they learned to

- avoid recitation of what is in the textbook. The visitors are not interested in a generic explanation.
- tell a day-to-day real-life story specific to that animal.
- incorporate pop quizzes to engage the audience in the dialog.

The advantage of having zoo keepers play the “guide” role was that they were the ones who knew their animals best. What they attempted to do, however, was more than just provide entertainment. They were guiding the adults and children into the world they knew best, the world with which they had been

fascinated all their lives. Given the fact that the zoo had no funding for the construction of new facilities or the purchase of new equipment, face-to-face knowledge transmission was the best and most affordable way to reveal and communicate the unknown aspects of the animals. As the zoo keepers began to share their knowledge, another revelation came to the Asahiyama team. While the zoo keepers were the best ones to present their animals, their animals also tended to act most comfortably when the zoo keepers were around. Hitching onto this discovery, the One-Point Guide incorporated feeding demonstrations and other activities that could be done in the visitors' presence.

Lessons learned from the One-Point Guide

Initially, the One-Point Guide activity was met with mixed opinions. Some reporters in the media cynically anticipated employee complaints being rushed to the labor department by many disgruntled zoo keepers. Nothing of that nature happened, and reactions from the visitors were very positive.

Despite their popularity, the One-Point Guide initiatives alone, Kosuge later recalled, did not significantly increase zoo admissions. They turned out to be, however, the most significant step forward that the zoo took in reviving its operation. The One-Point Guide activities led to the following two important discoveries, which became instrumental in taking further steps toward the zoo's revival:

1. That there is a large gap between the knowledge level of the zoo staff and that of the general public about the zoo animals
2. That adult and child visitors possessed about equal levels of animal knowledge

This meant that what interested children equally interested their adult guardians. This was an important revelation that charted the next course of improvement efforts.

Basically, the one-point guide initiative served as a vehicle for market research. "It enabled us to understand," as Kosuge recounts in his memoir, "what knowledge the visitors were looking to gain. All of our present facilities fully incorporate the feedback we received from our One-Point Guide audiences."

POP go the . . .

Another low-cost initiative that soon followed One-Point Guide is what was referred to as "POP." POP stands for "point of purchase" and refers to point-of-purchase advertisements used extensively in Japanese retail shops. They may be commercially produced or hand made by the store owners. There even are schools and classes that teach how to create POP panels. Examples are shown below.



Figure 6 Examples of Hand-Made POP Panels
(Source: <http://www.pop-school.com/>)

Each zoo keeper created his own panels to communicate something about his animals. All POP panels were made by hand by the zoo staff, rather than commercially ordered. For one thing, the zoo did not have the funds to spare for custom-made commercial panels. More importantly, however, the Asahiyama team felt that hand-made POPs were more personable and helped to convey up-to-the-minute information of the animal in a timely manner

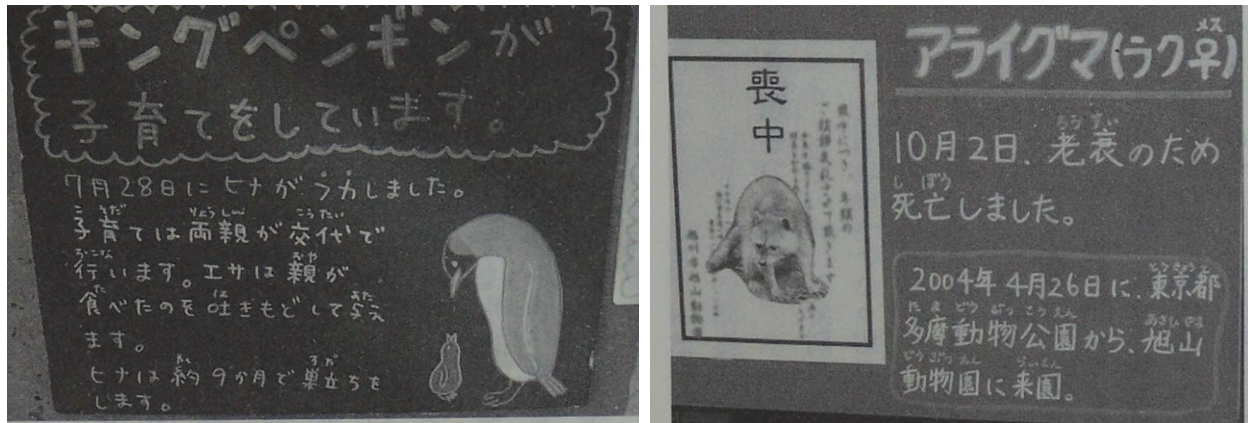


Figure 7 Examples of POP displays at Asahiyama Zoo
(Source: *Asahiyama Zoo Revolution* by Masao Kosuge)

Messages in each POP were written almost as a personal note from the animal to the visitors. They were used to announce major events such as birth, death, new arrival of an animal – as well as a status update about such times as the shedding and molting that animals were experiencing (sometimes accompanied by a specimen of fur attached to the panel). They were also used to signal caution, to communicate the DOs and the DON'Ts, and to entertain visitors with a pop (no pun intended) quiz such as “Why do tigers have stripes?”

“A Night at the Zoo” event

As the zoo staff interfaced more and more with the visitors, the Asahiyama team learned that some of the exhibits were seen as “boring.” In particular, the zoo’s lions, tigers, and Amur leopards were seen as uninteresting. Surprised at first, Kosuge and his team understood the reason after talking with the visitors. From the viewers’ standpoint, these animals “do nothing but sleep” while the zoo is open for business.

Lions, tigers, and Amur leopards—*panthera leo*, *panthera tigris*, and *panthera pardus orientalis*, respectively – are all related. They are felines that are programmed to roam and hunt at night. They sleep during the day to conserve energy that is needed for hunting. Just because they live in captivity, it does not mean that their DNAs are altered. So, what should Asahiyama do? What could the staff do to show these animals of prey “in action” without forcibly making them do something? The Asahiyama team was not about to run a circus; it was against the zoo’s mission, as well as the staff’s ethical beliefs.

The solution came in two steps. The first step, which was a low-cost solution, was to open the zoo to the public at night. Named “A Night at the Zoo,” this new initiative enabled the visitors to come to the zoo at night during a specified period in the month of August when the zoo would stay open until 9 PM. This made it possible for the spectators to observe and enjoy the agility and stealth of these feline predators in

action. The night lighting of the zoo produced spectacular effects on these animals' movements. The spectators raved as the lions, tigers, and leopards proudly presented themselves on stage.

Later, when the zoo was more financially secure, Asahiyama would implement facility renovations that enabled viewing the spectacular "nap scenes" during the day. Encouraged by the success of "A Night at the Zoo," the team successively implemented additional inexpensive initiatives. These are

- The behind-the-scenes tours – led by zoo keepers, by appointment only
- A zoo newsletter – with articles contributed by zoo keepers
- Summer school – designed for the 5th and the 6th graders interested in working with zoo keepers for three days during summer, by reservation only
- Parent-child study tour – led by zoo keepers
- Book reading events – intended for young children

This last activity, reading animal stories to children, Kosuge made a point to make himself available to lead as much as possible. In his absence, a zoo keeper would substitute. He or the zoo keeper would read children's stories involving animals to the audience, followed by a discussion of what the animals were truly like in the real world. The intention was to transmit proper knowledge about animals so the children would grow up with correct understanding of them.

"Winter Zoo" event

Another low-cost initiative that Kosuge's team implemented was the "winter zoo" event. While warm-climate animals such as chimpanzees and orangutans cannot come out of the heated compounds in the below-freezing weather, large beasts such as elephants and hippopotamus maintain the same routine even in winter months – except that they spend a shorter time outdoors than in the summer. So, in 1990, the zoo introduced a "winter zoo" event – a by-reservation-only viewing in the middle of winter at the zoo.

At the first viewing, approximately 60 people came in 27° C below freezing weather (-16.6° F). The zoo staff was somewhat apprehensive and worried how the visitors would fare during such an unorthodox outing. They needed not worry as the event turned out to be very successful. The crowd rejoiced in seeing giraffes, elephants, and hippopotamus go about their ways in the snow. At the same time, Kosuge recalls, "The animals seemed to be enjoying being at the center of attention again, as they were during the summer. It almost looked as if they were welcoming this unexpected surprise in the middle of winter." Kosuge may not have been far from the truth as one visitor later enthusiastically told him: "I absolutely loved being there. In some ways, I felt as though I were on exhibit for the animals!"

The event was so popular that Asahiyama Zoo increased the viewing frequency to three times per season. Requests for reservations continued to pour in. Thus encouraged, in 1999 Asahiyama finally established an official new winter schedule that would start in early November and continue through the end of March of the following year. That year, the winter hours started on 07 November and ran through 28 March. The zoo was open from 1100 to 1400 Friday through Tuesday. Today, the zoo is open daily during winter.

The first round of winter admissions was 26,667 – far above the forecast. Further, in conjunction with the annual Asahikawa Winter Festival, the zoo created a special penguin exhibit in which six King Penguins were placed. This also became instantly popular and attracted over 5,000 visitors daily – to the point that the zoo ran into a parking shortage. The visitors continued to also enjoy other animals. They raved at Amur leopards dashing through the snow; Japanese Macaques sun-bathing in winter sunlight; giraffes and elephants eating snow; and seals poking their faces in and out of ice holes.

Later, the staff introduced the now famous King Penguin March. This was another instant success. In fact, people lined up to buy tickets for the event. Because of so many reservations, the zoo had to adjust the opening hours to allow more viewing time in order to accommodate all spectators.

Moving on to Action Exhibits

These inexpensive measures that Asahiyama implemented not only helped change the visitors' perceptions of animals but enabled the team to see the zoo exhibits from the customers' viewpoint. Kosuge later recalled, "The knowledge gained through interacting directly with the visitors became a valuable asset. This led us to the next phase during which we designed and implemented major facility renovations."

The Task Force

When the zoo hit its lowest point with the echinococcus outbreak, many thought it was the end of Asahiyama Zoo. Kosuge recounts in his memoir that that was the time he was starting to lose his hair. The city government had been considering a shut-down for several years.

Soon after the crisis ended, however, there was a "change of guard" in Asahikawa City politics. A new mayor was elected, and he saw Asahiyama Zoo as a vehicle for fulfilling the promise he had made to his constituents during his campaign. Koichi Sugawara, the new mayor, had promised the construction of a new theme park to enrich the city's recreational offerings. Once he was elected, however, he became aware of the difficulties of generating funding as this was in the post-economic bubble period. This turned him to Asahiyama Zoo as a potential alternative. He became very interested in Kosuge's renovation proposal.

One day, Kosuge was called into the mayor's office to discuss it further. He took sketches of new facility designs that he and his staff had developed in the preceding years while discussing their "ideal" zoo. This mayoral meeting, initially scheduled as a half-hour briefing, ended up being stretched to two hours. The mayor concluded the meeting by thanking Kosuge: "Thank you, Mr. Director. I am so delighted to know that you have put serious thoughts into reviving our zoo."

Around the same time, other zoo supporters were being elected to the city council.²⁸ With it, the tide was starting to turn. Support from the community to keep the zoo open was also increasing. Encouraged, Kosuge put Asahiyama's facility renovation initiatives into motion.

He relied on three key people in his staff to further detail out the team's ideas for new exhibit designs. His informal "task force" comprised of three individuals.

²⁸ Among them was Yasuda Yoshimura who was a very enthusiastic supporter of the zoo.

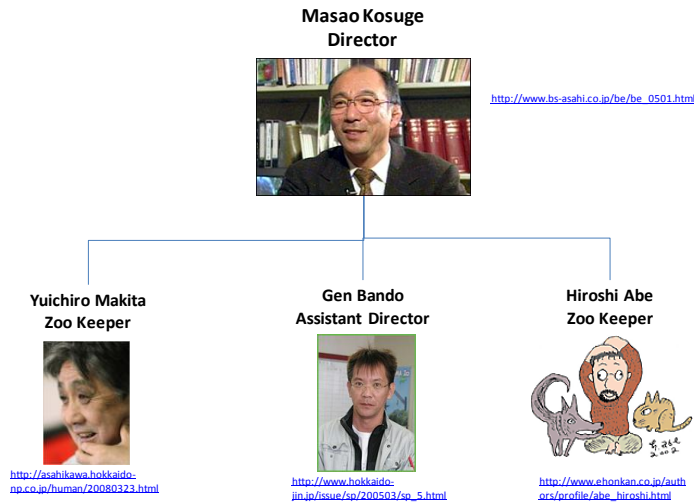


Figure 8 Key Members of the Task Force

Gen Bando, the then Assistant Director, is now the director of Asahiyama Zoo. A native of Asahikawa City, he joined the zoo in 1986. As is Masao Kosuge, he is a licensed veterinarian. He is the lead designer of the present Animals of Prey Exhibit, Penguin Pavilion, Polar Bear Pavilion, Seal Pavilion, and Orangutan Pavilion.

Yuichiro Makita was the most senior and experienced zoo keeper at that time. He is also native of Asahikawa City but had traveled all over Japan in youth with his father who was employed by the national railroad. He was initially hired as a temporary worker to support the opening of the newly constructed Asahiyama Zoo in 1967. The following year he became a permanent zoo staff member. He is one of the original One-Point Guide presenters who reluctantly went in front of people. He now pleasantly recalls his after-hours practices with his gorillas as his audience.

Hiroshi Abe is also native of Asahikawa City and was an Asahiyama zoo keeper from 1972 through 1996. He has since then retired from the zoo and started a second career as author of children's books. He is a talented artist, and most of the sketches that Kosuge took to present to the mayor were hand-drawn by Abe.

Armed with mayoral support and the rich knowledge base built through previous initiatives, the task force carried out brainstorming discussions in earnest. They soon started talking with architects and other design specialists in translating their “dream zoo” into reality.

Children's Farm

Asahiyama has it in its mission to provide education as well as recreation to the general public. One of the venues for delivery of education to young children is the Children's Farm.

The Children's Farm was the first of the renovation series to be undertaken once the mayoral approval was granted. It was completed in April of 1997 and since then has hosted many young visitors with their parents. Its concept is very similar to that of petting zoos in the US. The facility houses farm and domesticated animals – goats, rabbits, guinea pigs, ducks, and others –with which visitors are able to interact directly.



Figure 9 Children's Farm
(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

Asahiyama's educational philosophy, which is reflected in various programs that it provides, is to teach all aspects of life – namely, birth, aging, and death. This philosophy mirrors Kosuge's personal philosophy, as well as that of his entire staff. Urbanization of our environment has worked to alienate human population from nature. This has resulted in general ignorance of wildlife knowledge, thereby making it almost impossible to transmit correct knowledge to the younger generation. Through earlier initiatives via which Asahiyama staff interacted with visitors, the general lack of wildlife knowledge was keenly felt. Children's Farm was one of the ways Asahiyama attempted to fill that void – in particular, to close the gap between textbook-level information and bodily experience. Kosuge, in his memoir, recounts his experience at the Children's Farm as follows:

“Once, I was letting a junior high school student hold a chicken.²⁹ He was very surprised at how ‘warm’ the bird was. I asked him what made him think otherwise. He had to think for a minute then started reciting a passage from his textbook. He finally understood that this was what ‘warm blooded’ meant. It took him a bit to realize that because he had been totally lacking a bodily experience. When a young child is given a rabbit to hold, he wraps it with his entire body. The most typical reaction shown in this moment is ‘Wow, it is warm!’ When that happens, the child has taken his first step in learning ‘life’.”

Kosuge continues,

“But, life has another dimension. That is death, and that has to be taught as well. Children need to understand that once a living creature dies, it does not come back. We cannot take for granted that all children know this. In fact, they don't. Many believe that a living creature comes back again and again after death. They do not live in multi-generational households any more as we once did. Also, with the advances of medicine, more people these days die in the hospital. Just as modern people are alienated from life, in its basic form, they are also alienated from death.”

When Asahiyama staff started the POP initiative, they used it to communicate the news of an animal's death. The zoo keeper in charge would write a synopsis of the animal's life and its “achievements.” Despite initial reservations and criticisms by the media and general public, the community soon found that the children were very capable of understanding the concept and accepted the news in a very

²⁹ In Japan, junior high school starts at 7th grade and ends with 9th grade, i.e., ages 13 through 15. The system is all uniform across country.

straightforward manner. To this day, every time a death of an animal is announced, there are always children who bring flowers, fruits, and a thousand cranes.³⁰

Equally important, Asahiyama's philosophy is to treat aging as an essential aspect of life. Kosuge speaks:

“We also don't hide ‘old’ and ‘handicapped.’ We exhibit old animals. We also have rehabilitated wildlife live in our zoo. They are also part of the official exhibits. We have a black bird that had lost a wing in a traffic accident, a raccoon with an injured leg, an owl that had broken one of its wings by getting stuck in electrical wires. These are all results of urbanization, which is reducing the wildlife habitats and increasing the frequency of undesirable animal-to-person encounter. We want the next generation to understand that our environment interacts with that of wildlife. We all live in the same world.”

Kosuge personally participated in many of the educational programs hosted by the zoo. He personally told many stories from his long career at Asahiyama Zoo. In the subject of life and death, he always included a story of his special elephant friend. This is captured in Exhibit E.

Leveraging the physical environment

Asahiyama Zoo is officially recognized as the northernmost zoo in Japan. This fact for a long time was seen as a major disadvantage for the zoo's operation, especially in comparison with zoos on Honshu (the main island). Furthermore, geographically, Asahikawa City is located at the center of the Kamikawa basin. In other words, the area's climatic conditions are that of inland weather with extreme highs and lows in temperature being common. In the summer, temperatures can rise over 30° C (= 86° F); in winter, snow storms bring cold days – a below -25° C (= -13° F) weather is not rare. For that reason, everyone thought that Asahiyama Zoo had no competitive advantage and would not survive when declining admissions threatened zoo closure. In the public's eye, everything was working against the enterprise.

No one expected that people would want to come to the zoo during the Hokkaido winter. Since its opening in 1967, the zoo had customarily closed in winter months. Going back to the drawing board, however, Kosuge and his staff took another look at the zoo's customary practices. As a result, this was their conclusion: “There is nothing we can do about our climatic conditions. However, we can use them, possibly to our advantage, to create events and exhibits that are not possible in Honshu – exhibits that are possible only in Hokkaido. Whatever we come up with, we will be the only zoo in Japan that does that.” This thinking eventually led to the events such as “Winter Zoo” and “King Penguin March.”

In addition to climatic conditions, there were also the topographical conditions to reckon with. Asahiyama Zoo had been built on a mountain slope, on what used to be a ski slope. Using ordinary thinking, again, this is likely to be seen as a disadvantage. Kosuge's team set out to leverage it. Their idea was to create a “more three-dimensional exhibit” using the natural topography. Their decision was to start with one of the monkey exhibits, that of the Japanese Macaque (a.k.a. Snow Monkey). Since this species of monkeys comes from a mountainous environment, this exhibit was a natural candidate. Finding an architectural firm willing to work with the landscape, however, was another matter. Many firms flatly refused the zoo's request, stating the reason: “We cannot construct a facility on a hilly slope.

³⁰ Japan has the custom and belief in folding paper into “origami” paper cranes and stringing them. Called “A Thousand Cranes” this signifies a wish to be granted, good luck, or prayer for peace.

Buildings can only be erected on flat ground.” Eventually, the team found an architect who accepted the challenge.

Up until then, a traditional monkey exhibit would be in an enclosure surrounded by moats and viewed from the top. The new Macaque Mountain exhibit utilizes the natural topography so the visitors can view the animals from various angles, including straight from the top and the bottom. It is “more three-dimensional” as the Asahiyama team envisioned. According to Kosuge, “The monkeys themselves appeared to like the new facility a lot. They became more active than they were when housed in the old facility.”

It is not just the topographical change that made these monkeys more active, however. The facility incorporates many features that enhance their natural behavioral tendencies. Specifically, Japanese Macaques in the wild spend half of their time looking for food. The Macaque Mountain exhibit is designed to make food-gathering fun.



(1) Jumping from tree to tree

(2) Viewing from the top

(3) “I found food!”

Figure 10 Macaque Mountain

(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)



Macaques in the snow: A quintessential classic Japanese image, only possible at Asahiyama Zoo

Figure 11 Macaque Mother and Child

(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

Encouraged by Macaque Mountain’s success, Asahiyama’s team continued to apply the “three-dimensional” concept to other exhibit designs. This led to the renovations of several more exhibits such as

- penguin aquarium
- orangutan trapeze and pavilion
- polar bear pavilion
- seal aquarium
- capybara exhibit

These changes were made during the time Kosuge coined the term “action exhibit.”

Let the sleeping lion lie . . .

Initially, the staff of Asahiyama Zoo were concerned about the potential adverse effect of bringing animals closer to human spectators. Each time this was done, however, it was met with huge success. Encouraged by the good manners exhibited (no pun intended) by the visitors, Kosuge’s team implemented yet another change to the way the animals of prey were shown. One of the earlier complaints about the zoo was that “Lions and tigers are sleeping all the time. They are boring.” In response, the staff initiated a “Night at the Zoo” event. This time, the team decided to go one step further.

For the feline predators, the team reasoned, sleeping is a proper biological “function.” It may appear “boring” to humans, but it is an essential “activity” for species survival. The resulting solution was to renovate the facility so the visitors could more easily and closely view them at rest. Many architectural considerations were made to take into account different sleeping styles of each species. Smaller felines such as panthers, for example, sleep in the trees to protect themselves from larger predators. To simulate this environment, “hammock” like cages were hung right over the visitor walkway so the visitors could see the leopards comfortably napping directly above them. These hammocks are easily accessible by the animals from their living quarters and are placed in carefully chosen locations where cool and fresh breezes flow. It did not take long for the animals to decide to make these spots their favorite places to nap. This was, as Kosuge recalls, “an instant success” for both the animals and the visitors.



Hi Y’a, spectators! See my big paw!

Figure 12 A Leopard Overlooking the Visitors
 (Source: <http://www5.city.asahikawa.hokkaido.jp/asahiymazoo/zoo/English/top.html>)



Snow Leopard in action: (1) climbing rocks and (2) sleeping



Amur Leopard: Asahiyama has two siblings

Figure 13 Snow and Amur Leopards

(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

For larger felines such as tigers and lions, simulated rocks and other natural features are provided as they are not afraid to sleep out in the open; they know that they are not vulnerable as smaller felines are.



Figure 14 Large Felines

(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

Kosuge notes that the close viewing distance has been well received by the visitors. Even when the tigers peed on them – there are warning signs posted to caution the visitors – both adults and children treasured the experience citing that they now had “something to tell my family and friends,” and “a memory that lasts lifetime.”

Exhibit F provides a list of facility renovation projects undertaken to date starting with the Children’s Farm.

Towards the Zoo of Their Dream

The Smithsonian National Zoological Park has an exhibit entitled “Think Tank.” It is an indoor exhibit that includes an orangutan enclosure and scientific studies in action.³¹ The zoo’s behavioral researchers carry out various projects leading to a better understanding of the biological process of thinking. Think Tank defines “thinking” as follows: “a process that occurs when three elements exist – image, intention, and flexibility.” Image has to do with a mental representation of something that is not present; intention is about wanting to attain it; and flexibility is the ability to conceive multiple means by which that goal might be attained.³²

Image, intention, and flexibility. As simple as it may seem, that is exactly how the Asahiyama team went about in creating its now famous action exhibits.³³

The starting point of each exhibit was an image – or a metaphor – held by each team member. Kosuge instructed his staff not to hold back on their experimental thoughts. He encouraged them to dream a dream – to create a zoo of their dreams. Gen Bando, the then Assistant Director and lead author of several innovative exhibit designs, recounts in his book that his conception of the new seal aquarium was aided by Prince Leah’s holographic image in the first Star Wars movie.

Specially designed aquariums were also used for the new Penguin Pavilion, as well as for the Polar Bear Pavilion. The Orangutan Trapeze and Chimpanzee Forest exhibits provide facilities for these apes to show themselves in action. Asahiyama’s aviary is now a giant “bird cage,” 3000 m² in area and 14-meters high. None of the birds have clipped wings, so they can now dynamically exhibit their flying skills within the given confines.

Knowledge-based action exhibits

Kosuge stresses that “action exhibits” that have been implemented at Asahiyama Zoo are a result of numerous discussions, as well as trials and errors over many years. Most importantly, they are based on the scientific knowledge actively researched and acquired by the zoo over the years, not something that his staff came up with on the spur of the moment. In explaining the concept of action exhibit, he first defines two additional terms:

- Form exhibit: Mostly via cages and organized based on taxonomical classification
- Landscape immersion exhibit: Via re-creation of natural habitats to the extent possible³⁴

³¹ Source: <http://nationalzoo.si.edu/Animals/ThinkTank/Exhibit/default.cfm>

³² Liedtka, J. M. (1997). Everything I Need to Know about Strategy I Learned at the National Zoo. *Journal of Business Strategy*, 18(1), 8-11.

³³ Liedtka, in the above publication, comments: “How many of the managers and MBAs I work with, I wondered, could pass the Orangutan’s Test?”

In contrast, an action exhibit creates an interactive environment between animals and viewers in which animals are, in some way, in action. In many cases, spectators are actually made to be a part of the animal's environment. In every action exhibit there is an element at which the animal's world and the people's world intersect. This became a major differentiator between Asahiyama Zoo and the rest of zoos in Japan.

Kosuge is actually not first to propose this type of exhibit strategy. Jon Charles Coe, a zoo exhibit designer, presented a paper in the 1997 American Zoo and Aquarium Association (AZA) conference entitled "Entertaining Zoo Visitors and Zoo Animals: An Integrated Approach." The term "activity-based design" that he uses in the paper mirrors Kosuge's concept.³⁵ The concept of activity-based or action exhibit is also closely tied to environmental enrichment for the captive animals, which leads to several benefits including successful captive breeding.

Although the idea of activity-based or action exhibit may not be unique, the way each zoo implements it will be unique to each site by its definition. Designing such an exhibit requires a deliberate attempt to engineer or simulate the environment by taking into account both the animals' behavioral tendencies and the site's limitations. The objective is to maximize viewing of the animals in their natural – and happy – states without compromising their well being. This is where this approach differs from that of what Kosuge refers to as the landscape immersion exhibit. The natural habitat-like facility may benefit the animals but may not offer optimal viewing capability to the visitors. Besides, no zoo can – and perhaps none should – offer a complete replica of the natural habitats. Every site has its own unique constraints. There is no one-size-fits-all solution.

This is where each zoo's knowledge base comes into play, as Kosuge stresses over and over. Equally important, according to him, is each zoo keeper's experience. That, in itself, is a major piece of knowledge that needs to be leveraged. Needless to say, because the human spectators will become a part of the animal-person synthesized world in action exhibits, it is equally important to understand their viewpoint as well.

Visitor feedback

Visitors have responded to Asahiyama's new exhibits almost unanimously with two comments. One is that they feel very close to the animals. Secondly, they feel that they are made part of the exhibits. That was exactly Asahiyama's intent and was a result of countless discussions that the staff had with architectural designers. The distance between the human spectators and the species in the aquariums is virtually the thickness of a sheet of clear acrylic plastic. The distance between the feline predators and the visitors is not as close but is close enough for the former to successfully urinate on the latter. Further, the mesh of the cage that separates the two is specially configured to maximize viewing by human eye.³⁶ Everything is deliberate. Nothing is by accident.

Kosuge is amused when visitors ask how he trained his seals and polar bears to be so "cooperative." These creatures seem to show up just when the visitors arrive at the viewing window. This is simple. Because the animals are seeing the humans either as their potential lunch or as playthings. Seals, for example, are very curious creatures. From their perspective, they are coming down into the marine way to check out the "people on exhibit." For them, it is the humans that are a source of their entertainment.

³⁴ Hyson, J. (2000). *Jungles of Eden: The Design of American Zoos*. In M. Conan (Ed.), *Environmentalism in Landscape Architecture* (Vol. 22, pp. 23-44). Washington, DC: Dumbarton Oaks Research Library and Collection.

³⁵ Coe, J. C. (1997). *Entertaining Zoo Visitors and Zoo Animals: An Integrated Approach*. Paper presented at the 1997 AZA Annual Conference.

³⁶ This is accomplished by dimensioning vertical and horizontal spacing between wires.

Similarly, polar bears like to startle people. They often belly flop into water with all fours stretched wide. This creates a big tidal splash that makes spectators step back in astonishment. That is precisely what the polar bears take pleasure in watching.

The starting point of all this, Kosuge maintains, was “seeing the world from the animals’ perspective” which was only possible with training, knowledge, and experience that the zoo staff possess. The famous winter Penguin Walk, which did not require construction of a new facility, started out for the penguins’ benefit. King Penguins are creatures that love to stroll. In winter, due to shortened swimming time, they needed additional exercise to stay fit. They were never forced to march across the zoo premises. Rather, this had become a daily routine in which they all eagerly partook. They quickly learned when this took place and would gather at the gate in anticipation. One day the staff decided to experiment and opened the walk to public viewing. The penguins were not in the least bothered, and the spectators exercised good viewing manners. It has since become one of the most popular events of Asahiyama Zoo.

For each exhibit, Kosuge and his team engineered the best way possible for the animal world and the human world to intersect. Exhibit G shows some of the examples.

Triumph of a Learning Organization

Today, the positions of Asahiyama Zoo and Ueno Zoo are totally reversed. Since the death of its last Giant Panda, Ueno Zoo continues to struggle. Over the years, it has relied so much on rare species such as Giant Panda that their absence questions and threatens the zoo’s identity. As part of its strategic decision to emphasize rarity, it had discontinued exhibits of “ordinary” animals such as donkeys and pigs. The current Governor of Tokyo is not receptive to the zoo’s request to procure another Giant Panda from the Chinese government. Some parts of the facilities are in dire need of renovation although funds are lacking. Its senior management was quoted as saying, “We are so envious of Asahiyama Zoo. It can carry out facility renovation projects one after another.” Ironically, this was exactly the position in which Director Kosuge found himself twenty years ago.

Equally ironic was how the presence of Lesser Pandas is viewed at each of the two zoos. Both zoos have them. While Ueno visitors see them as a “poor substitute” for Giant Pandas, the visitors of Asahiyama Zoo adore watching the family of three Lesser Pandas (mother, father, and child) have fun crossing the suspension bridge that spans above a visitor walkway. As a side note, Giant Pandas and Lesser Pandas are only distantly related. Exhibit H provides information on the two species.



Figure 15 Three Lesser Pandas in action at Asahiyama Zoo
(Source: Asahiyama Zoo Home Page <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

Presently, Asahiyama Zoo continues to operate in the black. Repeat visitors from Asahikawa City and all over Japan continue to flock to the zoo. Despite the recent setbacks of the economic downturn, budgets for future facility projects are securely in place. The city government, as well as the residents, is very supportive of the zoo and its future.

Recently, officials at both Ueno Zoo and Asahiyama Zoo were interviewed. Ueno's director was quoted as saying "I would like to see the loss of the Giant Pandas as our opportunity to re-evaluate our core strengths and plan the next step forward. This is an opportune time for it." Asked about Ueno's demise and Asahiyama's success, an Asahiyama official responded: "It is not our intent to compete with Ueno Zoo. We also recognize Ueno Zoo's dedication to showing the best of its animals to the public. We have simply tried to do the same." Exhibit I captures Asahiyama's present aspirations for taking the zoo to the next step.

Epilogue – Penguins in the Sky

Penguins are birds, as their taxonomical classification implies; they belong to the family of Aves. They are, however, flightless birds. Over the course of evolution, their wings have become flippers. They are superbly adapted to an aquatic life and are astonishingly agile in water.³⁷

In a conventional exhibit, that is difficult to see, however. Most people have a limited vision of typical penguin behaviors: waddling on their feet or sliding on their bellies across the snow (this movement is referred to as "tobogganing." It helps them conserve energy while moving quickly.). They also jump with both feet together if they want to move more quickly or cross steep or rocky terrain. In other words, most people have seen only the side of the penguins that may appear awkward and comical.

The Asahiyama Zoo staff, by profession, knew of the penguin's superb swimming ability. When re-designing their exhibit became a reality, they all agreed that this is one feature that spectators ought to be able to see. Not knowing what the optimum solution would be, the staff created a metaphor: "Penguins in the sky." Eventually, Gen Bando proposed an underwater, acrylic tunnel that passes right through the new penguin pool. It was to be designed so a 360-degree view of the swimming penguins would be possible. He now had an image that needed to be translated into an actual facility. That process required numerous discussions with the architects. The architectural firm consigned to do the work specialized in conventional aquariums but had no experience with anything like what Asahiyama Zoo wanted. An action list was drafted, and each issue was carefully worked – structural strength, materials, water chemistry, and other critical engineering parameters.

The new Penguin Pavilion was completed four years after the mayor's approval was granted. On the opening day, Kosuge and his staff were very anxious. What they had built was based on their scientific knowledge and experience accumulated over many years. Theoretically, their confidence was high that the penguins would exhibit the desired behavior. Yet, nothing was certain until one has actually tried it. The time came for the staff to fill the pool. When that was done, they released the penguins into their new playground.

The penguins knew exactly what to do. Without hesitation, they jumped into the water and started swimming with lightening speed. They were like freshly launched torpedoes. A large crowd had lined up at the gate, waiting for the opening time so they could go straight to the new pavilion that was opening that day. The first ones to arrive and run into the aquatic tunnel were young boys. Immediately, they started to exchange cheerful cries. "Look!" "Look how fast they are!" "They are flying like jet planes!"

³⁷ Source: <http://en.wikipedia.org/wiki/Penguin>

The penguins never betrayed Asahiyama's expectations. They proudly carried themselves just as they paraded in the snow in full view of the human crowd. Except this time, they were not walking. They were flying. They were flying like birds. Penguins in the sky



Figure 16 Penguin Pavilion

(Sources: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/zoo/English/top.html> and <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

Exhibit A: Hokkaido, Ezo, and Ainu

While archaeologists and historians have not agreed on the origins of the Japanese people, the generally accepted belief is that early inhabitants of Japan came from more than one place in several waves. These include a Tungusic people entering from the north, people of Malayan origin from the south, and perhaps other people of Mongoloid origin coming by way of Korea. The Japanese language seems to be related to Polynesian and Altaic languages.³⁸

Hokkaido, the northernmost island of Japan, is a relatively newly opened area in Japan's mainstream civilization. It was once called the Land of Ezo. One of the early inhabitants of Hokkaido, going back to the Neolithic period, is believed to be ancestors of the ethnic group called Ainu which still exists today – though, a very small minority. The Ainu are believed to be of Caucasian origin.³⁹

Active exploration of Ezo did not start until the Tokugawa era in the 18th century. As Japanese newcomers started to spread into the land, gradually, they came in conflict with the Ainu. Not until the 19th century, during Meiji Restoration, did Ezo come completely under the Japanese government's control and re-named Hokkaido as we know today. As the Japanese government encouraged immigration of ethnic Japanese to populate Hokkaido, the Ainu became increasingly marginalized in their own land.⁴⁰

The Ainu were not recognized as ethnic minority having aboriginal rights until recently. A court case in 1997 established them as such, supporting the Ainu in their pursuit of their rights to their distinct culture and language. There are now many different organizations of Ainu trying to further their cause. Its language is found in the form of place names and others in Hokkaido. According to Asahiyama Zoo's newsletter, "Moyuku Kamui," means Japanese raccoon dog in the Ainu language.

Hokkaido today is a home of Japan's major agricultural industry. It is also home of Sapporo beer, named after the prefecture's capital. Tourism is also an important industry there. Vacationers escaping hot and humid weather from the south flock to the island in summer; it is also a popular destination in winter for skiers and other cold-weather sport enthusiasts. Because of its relative newness in Japan's history (at least in Japanese mainstream civilization), Hokkaido still carries the image of a frontier land.

³⁸ Hane, M. (1991). Japanese Prehistory Premodern Japan: A Historical Survey (pp. 10-15). Boulder, CO: Westview Press.

³⁹ Hane, M. (1991). Internal and External Foes Premodern Japan: A Historical Survey (pp. 42-43). Boulder, CO: Westview Press.

⁴⁰ Source: http://en.wikipedia.org/wiki/Ainu_people

Exhibit B: Asahiyama Zoo's Operational and Financial Data

Shown below are Asahiyama Zoo's recent operational data and financial figures.

2009 hours of operation

	Date	Time
Summer Period	29 April 2009 – 18 October 2009	0930 – 1715
	12 – 16 August 2009: Night at the Zoo	0930 – 2100
Winter Period	03 November 2009 – 07 April 2010	1030 – 1530

2009 fee structure

	Asahikawa Resident	Non-Asahikawa Resident
Adult (senior high school & up) ^a	¥580	¥800
Child (junior high school & down) ^b	Free	
Group (a minimum of 25 adults)	¥480 per person	¥700 per person
Senior (aged 70 & up) Handicapped & Helpers Long-term care recipient Welfare Recipient	Free	
Zoo Passport (good for 1 year)	¥1,000	
Zoo-Asahikawa Science Museum combined Passport (good for 1 year)	¥1,800	

a: Senior high school = 10th – 12th grades

b: Junior high school = 7th – 9th grades

[Exhibit B – continued]

Basic finances

Asahiyama Zoo’s basic financial metrics consist of the following items:

Revenues:

Funding from the City of Asahikawa⁽¹⁾

Admission Fees⁽²⁾

Expenses:

Personnel costs⁽³⁾

Operation costs

Loan re-payment⁽⁴⁾

Note:

- (1) Was approximately ¥300 million per year but has recently been reduced to a few million yen due to profitable admissions level
- (2) The City of Asahikawa decides the admission fee structure; approximately 75% of visitors are paying customers.
- (3) Typically, in calculating “profitability” of a public zoo in Japan, personnel costs are not included in the equation. This is because zoo personnel are city employees and are included in the municipal government’s overhead.
- (4) For facility renovation

Exhibit C: Elephant Trains

In 1949, some 30,000 visitors flocked to Higashiyama Zoo in Nagoya on the “elephant trains” to see the only two elephants that still remained in Japan after the World War II. Why did so many children and adults want to see elephants? This was at a time when high-speed trains had yet to come to Japan. What was there to gain by spending hours and hours of ride on a crowded train?

Masao Kosuge, in his memoir, provides his interpretation of this historical event, which took place when he was a year old.

“It was clearly more than just a recreational pleasure these individuals were seeking. My personal conjectures are as follows. I surmise, first, that children and adults were looking for, and looking at, similar yet not identical things. Children wanted to see the elephants because the animals gave them hope . . . for tomorrow. The young boys and girls did not know what the future would bring, but the bombing was over and there was a life after tomorrow. Seeing the animals that were originally from the other side of the world, the children saw in them a better life that someday would come.

Adults, on the other hand, needed to see the elephants for a more immediate reason. They wanted to re-affirm that they were humans. Many of them had not long ago been living not too differently from wildlife . . . drinking muddy water and eating frogs and whatever else they could catch. They needed to have assurance that they had finally returned to humanity.”

Today, of course, few people in the developed world would be going to the zoo to re-affirm their humanity (fortunately). The lesson learned here, however, as Kosuge implies throughout his memoir, is that people’s needs and perspectives change as their environment changes. Accordingly, enterprises need to continually re-assess their missions and strategies to better serve their audiences. Zoos are no exception.

Exhibit D: History of Zoos in Japan – Gen Bando’s View

Gen Bando, now the Asahiyama Zoo Director and former Assistant Director, provides his view of zoo evolution in Japan in his recently published book.⁴¹

The Tokyo Olympics of 1964 marked the beginning of many zoos in Japan today. Japan was carrying out what would later be known as an unprecedented post-war economic recovery and development. Prosperity brought, among other things, new or additional cultural venues. Successful commerce provides increased public funds, naturally, and various municipalities were starting to be actively involved in construction of cultural, educational, and recreational facilities. Zoos were among such cultural institutions that became popular partly because they carried little opposition or controversy. They were seen as having a politically neutral agenda, and for that many elected officials hitched onto the building zoos as a way to improve their popularity.

Bando cites in one of his publications: “In my opinion, the demise of many zoos we have seen in recent years in Japan is rooted in their origin. They were politicians’ favorites. Zoos in Japan started – and continued to be – public institutions. Unlike major zoos in Europe or United States, zoos in Japan were not founded on scientific inquiry or educational motives. They were seen as a symbol of affluence for that municipality. They were institutions without a solid philosophy, and over the years that has turned many of them into pure entertainment outlets.”

Bando continues: “In those days, no one cared about wildlife or its preservation. No one thought of zoos as being a participant in environmental conservation effort. Zoos were evaluated purely based on the number of admissions and the revenues they generated. At the same time, the zoo professionals – myself included – did not make any effort to communicate our animal experience to the visitors. We all have so many wonderful stories to share with the public, yet we didn’t. There have been a few books published by former zoo keepers, but experience sharing in this form reaches only a limited audience. What I believe should have happened sooner is for us to have more direct face-to-face encounters with our visitors early on. Just as municipal governments focused their attention solely on the levels of admissions, we focused our effort only on our animals. We did not worry about our customers – we thought that was our management’s or politicians’ job.”

“Contrast this to aquariums,” Bando continues. “Aquariums in Japan are mostly privately-owned or are a public-private joint operation. Their admission fees are much higher than those of zoos’, but they have been more innovative and are much better than zoos in keeping pace with trends and technologies. Zoos, on the other hand, were at the whim of public administrators who knew nothing about wild animals. On top of that, because they were public institutions and were inexpensive to visit, they were never seen as a place of high cultural and educational activity.”

Starting with the arrival of the first two Giant Pandas at Ueno Zoo from China in 1972, major zoos in Japan were starting to go for “exotics.” Other rare animals – such as otters and Koalas – followed. Bando recalls an incident at Asahiyama zoo when he was taking care of the spotted seals. A mother and her child came to the exhibit thinking that they were going to see otters. Bando felt insulted when they turned around and left, saying “Oh, these are just seals, not otters.” “This coincides with the period in which Japan’s increased affluence was driving people towards expensive ‘brands’ and ‘exotic’ pets,” says Bando. “This was also a time when large dog breeds such as Golden Retrievers and Siberian Huskies were becoming popular in private households,” he continues.

⁴¹ Bando, G. (2008). *A Zoo of the Dream: Asahiyama Zoo's Future 夢の動物園 旭山動物園の明日*. Tokyo, Japan: Kadokawa.

During the economic bubble of the late 1980s through the early 1990s, Japan was starting to see a number of theme parks and other leisure facilities emerge. They were starting to take away zoo visitors. Some of the major zoos in Japan, in an attempt to counter this competition, adopted the “landscape immersion” exhibit style that was becoming popular in the US. With the limited space in Japan however, in Bando’s opinion, none of the zoos were really able to copy the American style. They all ended up being a scaled-down versions of mimicking American models. Bando implies that this was a result of not fully understanding the differences in physical environment of the two countries. As time went by, even Koalas and otters were starting to lose popularity. Only Giant Pandas appeared to be retaining their attraction.

The bubble economy then busted. Many zoos were starting to lose visitors and consequently found themselves in financial trouble. Asahiyama Zoo was no exception. “In its worst state,” Bando recalls, “some of our facilities were in dire need of renovation, but we did not have any money. Even our visitors were commenting how sorry they felt for the animals for having to live in such a rundown place.”

It is generally accepted that a zoo has four major functions to fill: recreation, education, research, species conservation / preservation. The most critical function, in Bando’s opinion, is recreation because that is the major reason that brings in visitors. Without visitors, there is no reason for a zoo to exist. All animals are equally fascinating to him and his colleagues, but somehow these species were not attracting Asahiyama’s visitors. “What have we done that caused people to see Koalas and otters as being more valuable than raccoons and seals?” That question ultimately led to the activities that Asahiyama staff undertook in their quest to revive their zoo.

Exhibit E: Story of “Asako”

Asako was an Asian elephant that lived to be 56 under Masao Kosuge’s care. She became one of his favorite friends, and he often included her story in children’s book-reading event, especially when the subject of elephants came up.

It is rather rare for an elephant, even in captivity, to live past 50. A 56-year old elephant, therefore, is very old. Kosuge remembers her very well, because according to him, how she held herself in her last few months was a testimony to how animals deal with the process of dying.

Animals take pain and discomfort as they come. They go head-on into the path of dying. They do not cower, they do not complain. They stand erect, literally, until the very last minute. When Asako was dying, Kosuge was on a business trip when a phone call came from a zoo colleague. He was told that his best friend was now on her death bed. He hurried back to his zoo, arriving there past midnight. He went straight to Asako.

For the very first time, he saw Asako lying. He approached her and called her name. She saw him and immediately coiled her trunk around his leg. Then she died.

Kosuge later recalls: “She didn’t even close her eyes. She didn’t even make any noise. She went head-on into her death. That was when I learned death, the animals’ way. Asako taught me. These animals are so brave.”

Exhibit F: Facility Renovations

As Asahiyama Zoo went from traditional exhibit style to “action exhibits,” a series of construction projects were carried out as shown below.

Date Opened		Exhibit	Approximate Cost
April 1997		Children’s Farm	¥99 million
September 1998		Animals of Prey	¥593 million
July 1999		Macaque Mountain	¥233 million
September 2000		Penguin Pavilion	¥460 million
August 2001		Orangutan Trapeze	¥43 million
September 2002		Polar Bear Pavilion	¥714 million
June 2004		Seal Pavilion	¥608 million
January 2005		Orangutan Pavilion	¥70 million (donated)
August 2005		Spider Monkey and Capybara Pavilion	¥58 million

Thus, excluding the donated item, a total of ¥2.8 billion was spent through 2005.⁴² Also, since then, the zoo has constructed three additional facilities: Wolf Forest (opened in June 2008), Ezo Deer Forest (opened in April 2009), and Arctic Fox Pavilion (opened in May 2009). Further, a future facility called African Life Garden is planned, subject to funding availability (estimated construction cost is ¥2 billion – the zoo is gladly accepting donations). One of its major themes will be environmental sustainability, and the architectural plan incorporates universal design (UD) principles.⁴³

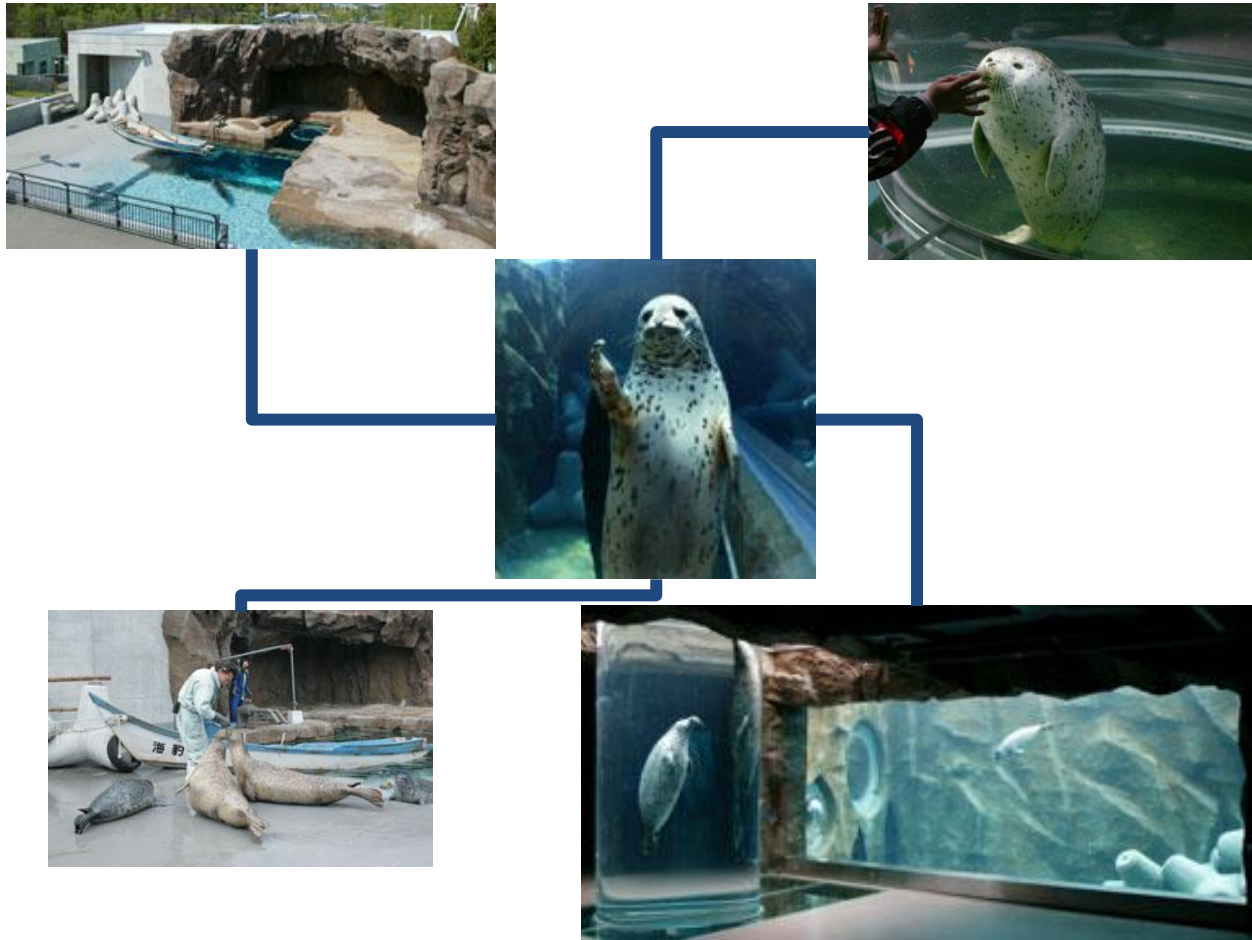
⁴² Source: *Asahiyama Zoo Revolution* by Masao Kosuge

⁴³ Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>

Exhibit G: Close Encounters of the Third Kind

At Asahiyama Zoo, there are many encounters between and within animal and human worlds. Here, the facility designs enable (1) near direct encounter between seals and people, (2) near direct encounter between polar bears and people, and (3) simulated encounter between seals and polar bears seen by people.

Spotted seals are also known as Larga seals and inhabit the ice and waters of the North Pacific Ocean and adjacent seas. They are found along the continental shelf of the Beaufort, Chukchi, Bering and Okhotsk Seas, and south to the northern Huanghai Sea and western Sea of Japan.⁴⁴



(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/>)

A tunnel connects the pool to the marine way underneath the pool. The seals are curious enough to travel back and forth through the tunnel to see the people. The vertical posture exhibited by the spotted seals is a typical swimming style of this species. The acrylic tube beneath the pool enables a 360 °viewing of this posture for the human spectators – as well as a means of entertainment for the seals as they see visitors as potential playthings.

⁴⁴ Source: <http://www.pinnipeds.org/species/spotted.htm>

Polar bears are among the largest predators in the world. They range in color from pure white after a molt to a yellowish shade resulting from solar oxidation or staining by oil from seal blubber.⁴⁵ Asahiyama's polar bears are housed in Polar Bear Pavilion which is equipped with a large water tank for swimming.



(1) Polar Bear in snow



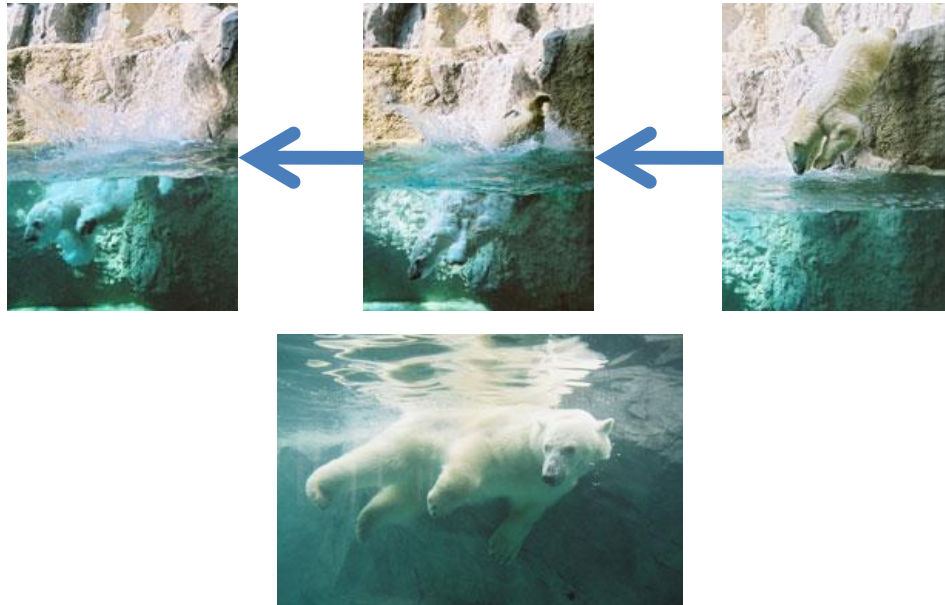
(2) Polar Bear Pavilion



(3) Polar Bear in sunset

(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/zoo/English/top.html>)

Nothing is more fun for the polar bear to dive into the water tank to see people startled.



(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/zoo/English/top.html>)

Further, out in the wilderness, the polar bear's world is connected with the seal's. The capsule window shown below is trying to simulate encounter between polar bears and seals – the eater and the eaten of the food chain.

⁴⁵ Source: http://www.defenders.org/wildlife_and_habitat/wildlife/polar_bear.php



(Source: <http://www5.city.asahikawa.hokkaido.jp/asahiyamazoo/zoo/English/top.html>)

Here, a visitor pokes her head up into the viewing window to have a look at the “predator.” This enables the visitor to see the polar bear from the seal’s point of view.

Exhibit H: The Giant and Lesser Pandas – Distant Relatives

<p style="text-align: center;">Giant Panda <i>Ailuropoda melanoleuca</i></p>  <p>Size: Length: 63"-75" (Males longer) Weight: 154-275 lbs (Males heavier)</p> <p>Life span: 25-30 years</p> <p>Home: In bamboo thickets of mountainous regions of central China: Sichuan, Shaanxi, and Gansu</p> <p>Social life: Mostly solitary except for mothers with their young.</p> <p>Diet: Although taxonomically classified a member of the order "carnivora"—molecular studies suggest that it is a true bear – the panda’s diet is 99% bamboo – shoots, stems, and leaves – their digestion of which is poor, so they must eat huge amounts. Loss of suitable habitat is a major cause of their endangered status. Although they can climb trees, they feed mostly on the ground. Their limited ability to absorb nutrients from bamboo results in a low metabolic rate and sedentary behavior. Most zoos attempt to maintain their bamboo diet, but some supplement it with specially formulated biscuits.</p>	<p style="text-align: center;">Lesser Panda <i>Ailurus fulgens</i></p>  <p>Size: Length: 31"-47" (w/tail; Males longer) Weight: 6-14 lbs (Males heavier)</p> <p>Life span: 12-14 years</p> <p>Home: Forested mountain slopes of Southern Asia: China, Bhutan, India, Laos, Burma, and Nepal.</p> <p>Social life: Mostly solitary except for mothers with their young and during breeding season.</p> <p>Diet: Although DNA research taxonomically classifies the lesser panda as member of the order "carnivora," the lesser panda’s diet is mainly bamboo; they are agile climbers who forage in trees. Their diet includes acorns, roots, berries, lichens and occasionally eggs and young birds. In captivity, they will readily eat meat.</p> <p>[Lesser Pandas are also known as the Red Panda and as the Fire Fox.⁴⁶]</p>
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(This section was developed and contributed by Robert Stephen Campbell.)

⁴⁶ Yes, the Mozilla Firefox browser is named after a Lesser Panda.

Exhibit I: Going Forward

Kosuge concludes his memoir with a forward look into the future. He states: “The zoos in Japan have gone through many changes. As society’s norms, values, and expectations change, we as zoo managers must adapt in order to continue to serve our communities. Asahiyama, through hardships and mistakes, has reached a milestone. We changed the ways we operated the zoo to best respond to the current societal needs. This does not mean, however, that our current business model will continue to work. We constantly need to re-assess our way of doing things.” Gen Bando, Kosuge’s successor, very much shares the same vision and outlook. The baton has been passed.

In going forward, Asahiyama Zoo plans to continue its efforts to enhance its educational capabilities. Kosuge wrote in his memoir in 2006 that “We still have a job to do to turn Asahiyama into the zoo of our dream.” The zoo’s vision is to make the institution a place where medical, veterinary, and university graduate students come to conduct research, especially joint studies with the zoo. These studies, Kosuge says, are expected to

1. improve animal husbandry and breeding
2. enhance the zoo’s knowledge base further to educate visitors, especially children
3. attract highly qualified people to work at the zoo

Zoos of the future – according to Kosuge’s and Bando’s vision – are zoological institutions for the benefit of the animals. Specifically, zoos should contribute to species conservation efforts by

- continuing to provide a safe place for the species to live
- providing educational opportunities for people to see them as real-life animals, rather than textbook photos
- presenting educational information on what people can do to help their favorite animals’ “cousins” in the wild
- participating in breeding programs

From the operational point of view, Bando is hoping to see the annual admissions number stabilize at the three-million mark. Admissions that exceed that level are likely to create challenges such as overcrowding which could lead to customer dissatisfaction. While recognizing Asahiyama’s feat, the zoo staff does not wish their success to end as just another fad. It has to be sustained . . . into the future . . . for many, many years to come.