

Workshop on Global Safety Culture
– National Factors Relevant to Safety Culture

Survey on Japanese culture related to safety culture

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2. Survey on influences to safety culture against the Fukushima accidents and the other industry accidents
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Slogan Related To Japanese Culture

Safety First



JIS Standard Safety Signs

Safety-First is the slogan which was born in U.S.

Early 1900, Mr. Gray, the president of the US steel, transferred the company policy from “Production First, Quality Second, Third Safety” to “Safety First, Quality Second, Production Third” from the viewpoint of avid humanitarian.

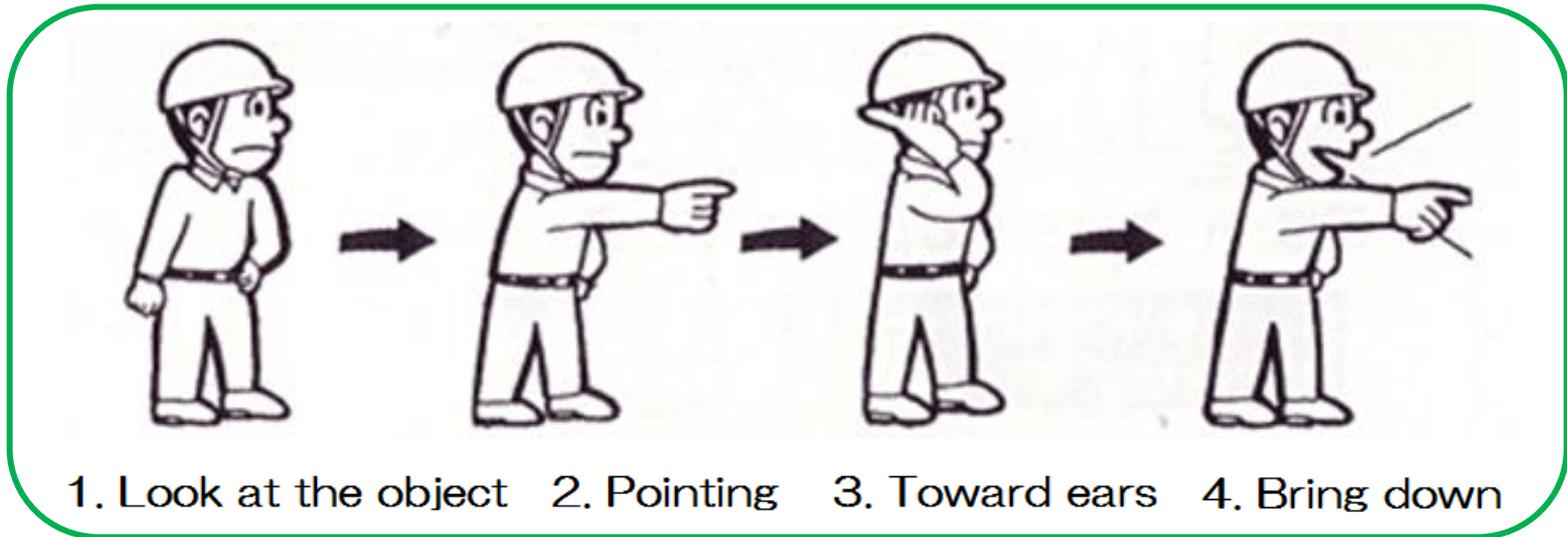
As a result, work-related injuries declined quickly and quality and production increased. Slogan of safety first was spread around the world.

In Japan, safety first is posted at construction sites and factories. And this slogan is written at vehicle and helmet of workers.

Safety-First in Japan focuses on not nuclear safety, but occupational safety.

Pointing and Calling

- Pointing and Calling is a method of occupational safety as a part of risk prediction.
- The method was first used by train drivers and is commonly used in Japanese industry. The method originated in Japan in the early 1900s, with train drivers calling out the status of signals.



- Pointing and calling is safety for rule-based behavior, but not for knowledge-based one.

Sacrifice

- Sacrifice is to act and challenge even if throw away life and self-interest for achieving the purpose.

- “Anpanman” (Recent National Culture)

Anpanman is a long-term Japanese serial comic that began at 1969. And TV animation of anpanman is broadcasted a long period of time from 1988.

Head of the main character of Japanese popular animation, Anpanman, is a bun made by his Uncle Jam. His name, anpanman, comes from the fact that his head is made of bread which is filled with red bean paste called an anpan.

Almost Japanese know this animation and this character is the most popular among people age 0 to 12 years old.

When he find starving and people in trouble, he tear a part of his head and help them.

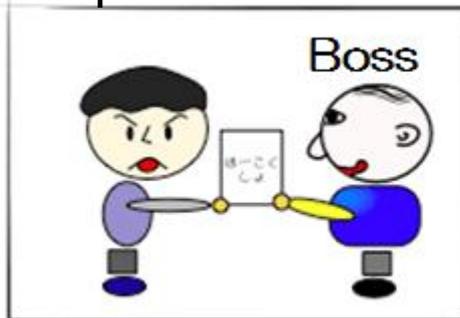


Picture: © takashi yanase /
Froebel-Kan, TMS, NTV

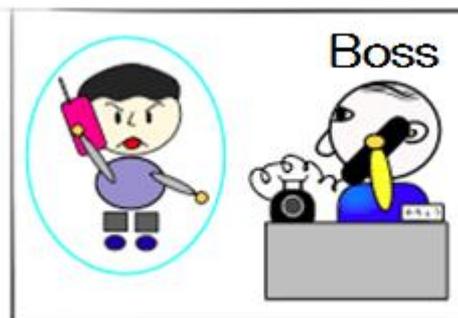
<http://www.ntv.co.jp/anpanman/mo>
[vie2006/](http://www.ntv.co.jp/anpanman/mo)

Ho-Ren-So (Reporting, Contacting, Consulting)

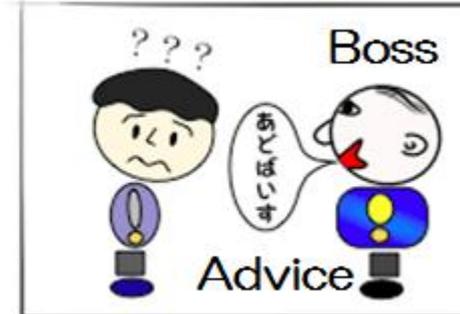
- Ho-Ren-So (Vegetable name: spinach in Japanese) is a Japanese acronym to describe the basics of intradepartmental communication: report to your supervisor, report to your colleagues and seek advice of those concerned.
- Mr. Yamazaki, the president of the finance company in Japan, started campaign in the company to improve that the necessary information flows properly within an organization in 1982.
- In Nakasone administration, politics for "Ho-Ren-So campaign" began in 1983, it came to be widely known. After that, many Japanese companies approach and it is treated as a common sense of business person now.



Houkoku
(Reporting)



Renraku
(Contacting)



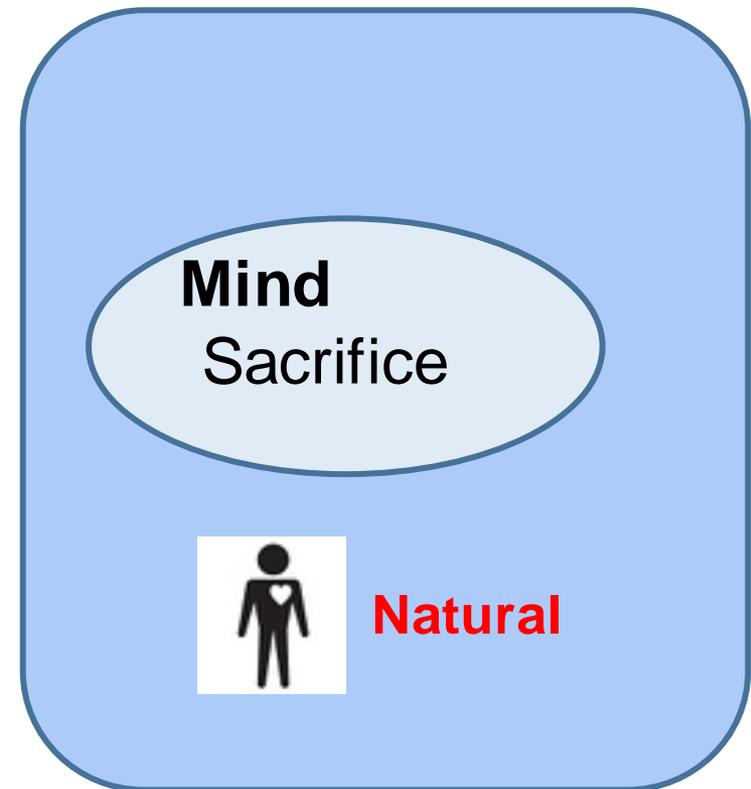
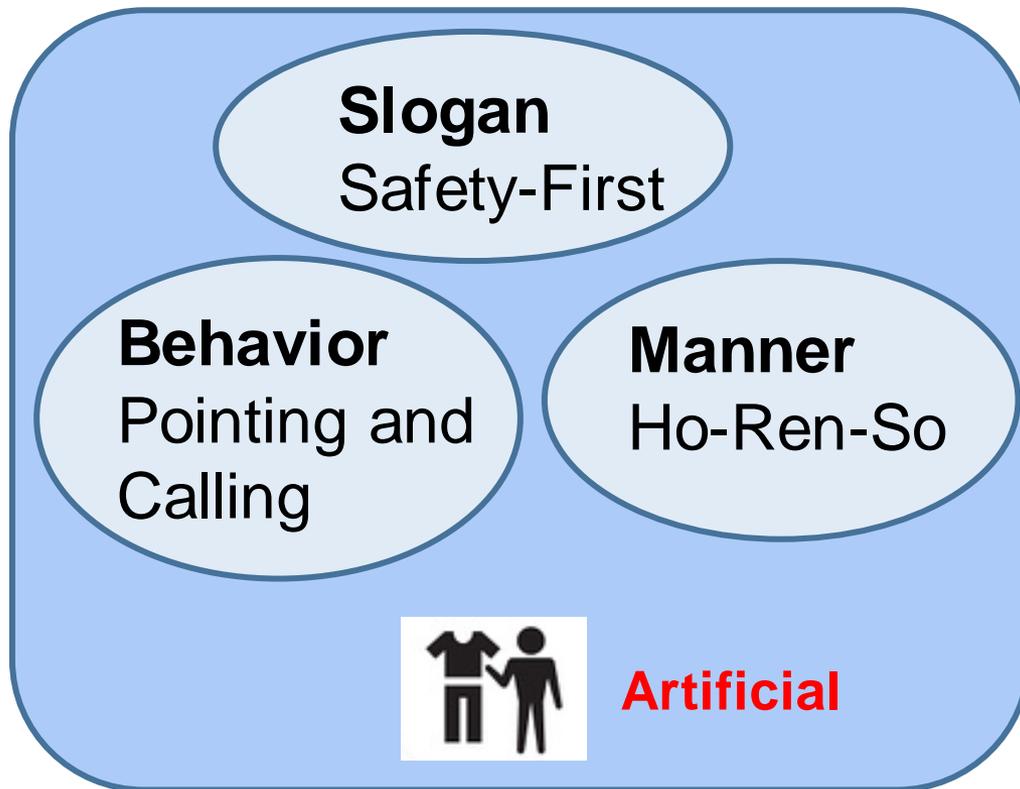
Soudan
(Consulting)

Picture:
Business
communication
http://web.ydu.edu.tw/~uchiyama/bconv/topic_02.html
(Only Japanese) 5

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Japanese Culture related to the industry

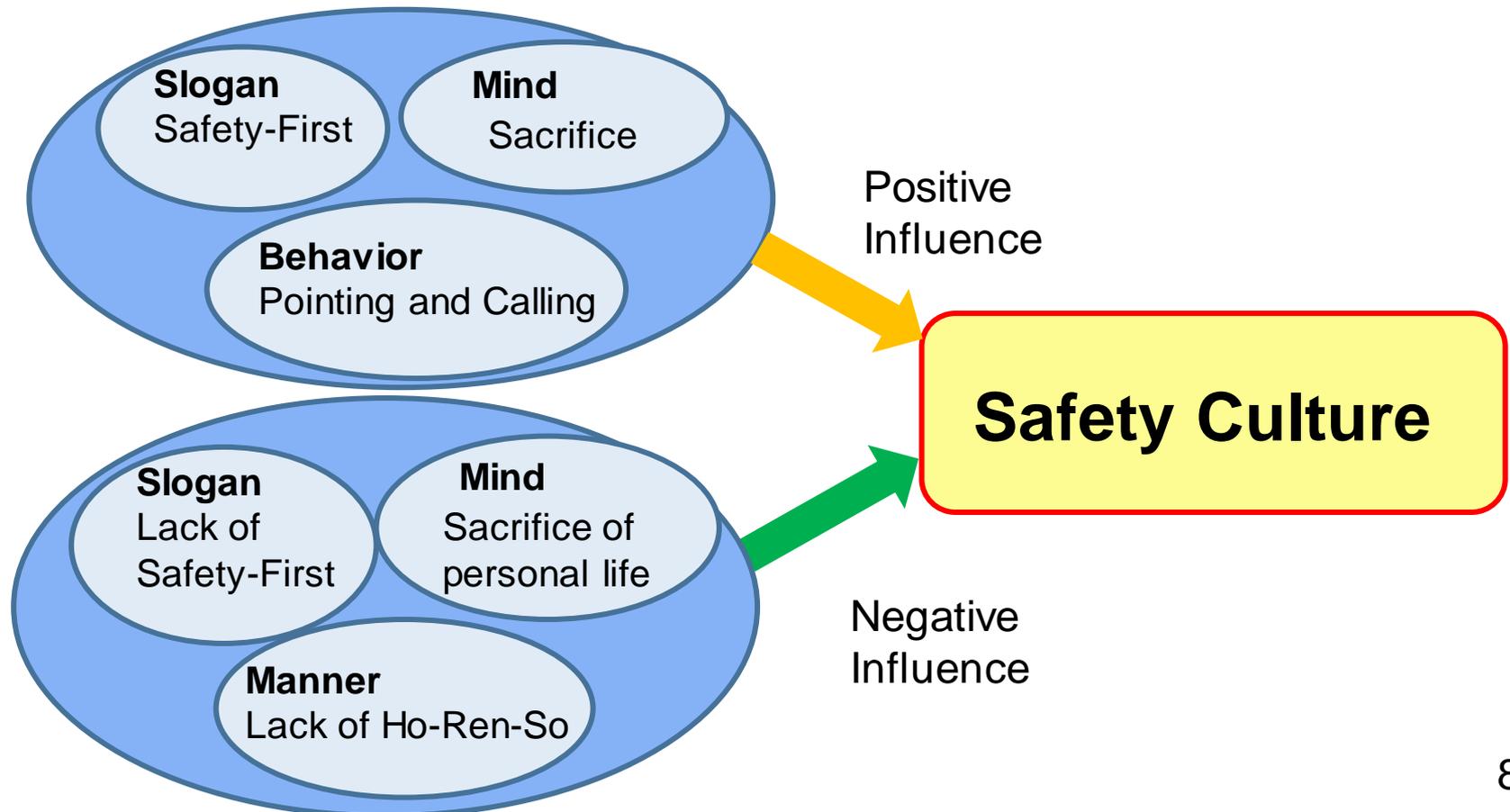


There exist artificial that produced with needs to increase performance for people and natural that possess genetically in the country.

- ✓ Do these cultures influence safety culture?
- ✓ How do those cultures have a impact on Safety culture?

Survey on national culture related to safety culture

Survey on influences to safety culture against the Fukushima accidents and the other industry accident

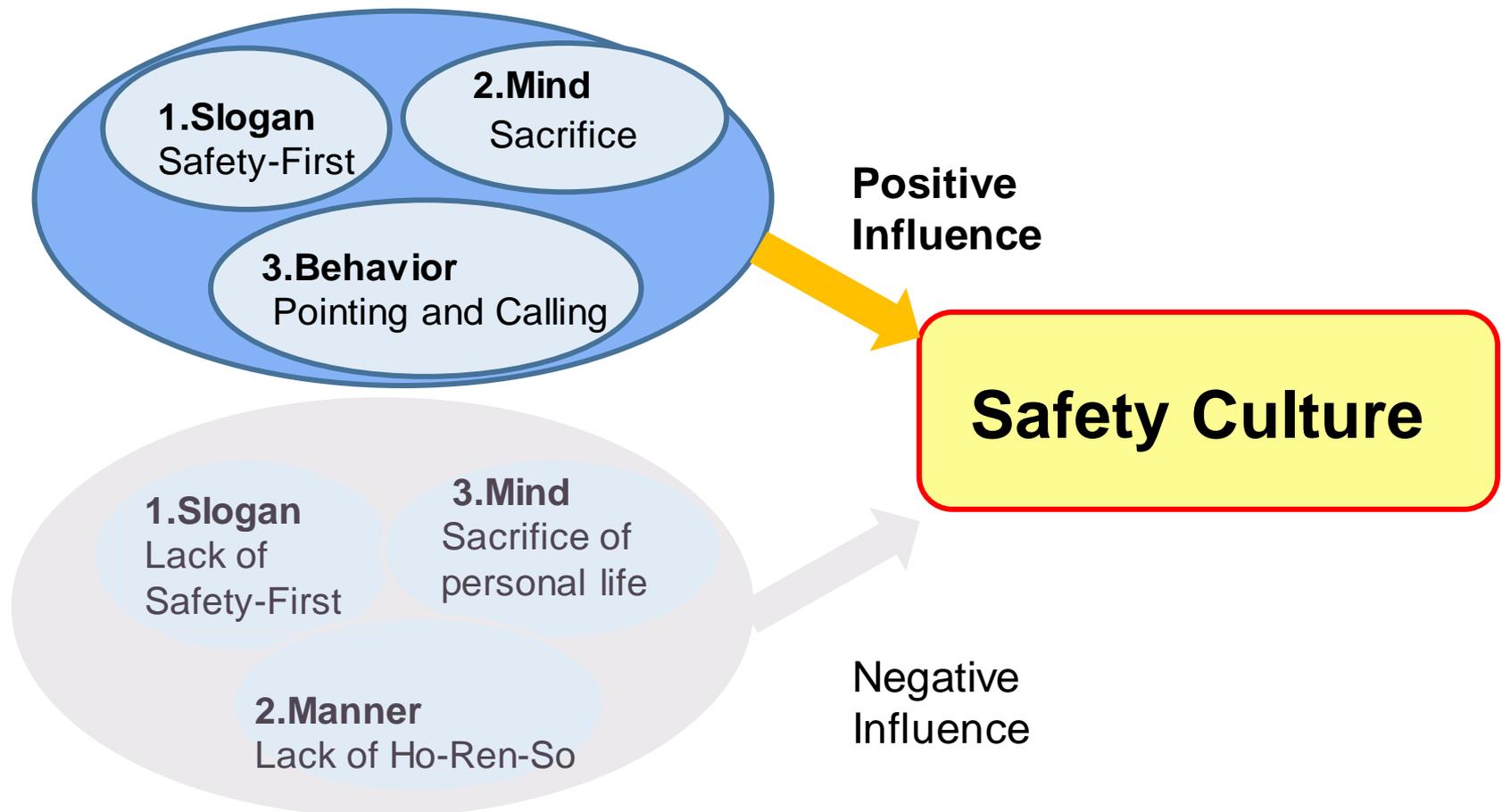


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Survey on national culture related to safety culture

a. Good practice of national culture



Survey on influences to safety culture against the industry accidents

1. Slogan : Safety-First



Shinkansen (JR-central HP)

- The Tokaido Shinkansen, which began commercial operation in October 1964, travels between Tokyo and Osaka in as short as two hours and 25 minutes.
- Throughout its 47 years of commercial train operations, the Tokaido Shinkansen has maintained a flawless record of no passenger fatalities or injuries due to train accidents such as derailment or collision. [1]
- In extreme situations when wind speeds or rainfall exceeds certain levels, the central Japan railway company guarantee **safe and reliable transportation by taking measures including restricting operations.** [1]

[1] Central Japan Railway Company HP :<http://english.jr-central.co.jp/about/index.html>

Survey on influences to safety culture against the Fukushima accidents

2. Mind : Sacrifice

- About 50 workers remained the site to water injection of hydrogen gas explosion in the Unit 4 R/B on March 15, 2011. "Fukushima 50" is a name given by overseas media.
- "47 Ronin" (National Culture in the 18th century)
Like the 47 Ronin, the brave Fukushima 50 are sacrificing their lives to regain their lost honor. [2]
- "We felt like kamikaze pilots ready to sacrifice everything" [3]
Yoshizawa [Unit manager of Fukushima Units 5 & 6] says the hardest part of his job was sending junior colleagues into dangerous situations. "Several workers were injured during the hydrogen explosions, **and telling people to go back into dangerous areas** was tough." [3]



Picture: Kunisada Utagawa describe "Tyuushingura" about 250 years ago.

The movie "47 Ronin" is based on the "Tyuushingura" which describe sacrifice.

[2] The Fukushima 50 an the 47 Ronin <http://forum.prisonplanet.com/index.php?topic=203879.0>

[3] Justin McCurry in Tokyo ,guardian.co.uk, Friday 11 January 2013 13.11 GMT

URL:<http://www.guardian.co.uk/environment/2013/jan/11/fukushima-50-kamikaze-pilots-sacrifice?INTCMP=SRCH>

Survey on influences to safety culture against the Fukushima accidents

2. Mind : Sacrifice (Continue)

■ INPO Report: **Dedication and potentially losing of health**

Some workers lost their homes and families to the earthquake and tsunami, yet continued to work. Many workers slept at the station-usually on the floor. Because of food shortages, workers were commonly only provided with a biscuit for breakfast and a bowl of noodles for dinner. (p.13)^[4]

■ ICANPS interim report ^[5]

Site Superintendent Yoshida resolved to prevent such a serious situation **at any cost, including to his own life**. However, there were many TEPCO clerical employees and other members of partner companies. Site Superintendent Yoshida decided to have the minimum number of members necessary for controlling the reactors stay at the Fukushima Dai-ichi NPS and evacuate all other members from the NPS depending on the Unit 2 plant conditions. (p.257) ^[5]

[4] INPO 11-005 Special Report on the Nuclear Accident at the Fukushima Daiichi Nuclear Power Station, November 2011

[5] Investigation Committee on the Accident at Fukushima Nuclear Power Stations of TEPCO[ICANPS], interim report, Dec 2011

Survey on influences to safety culture against the industry accidents

3. Behavior : Pointing and Calling

- According to the study by the Railway Technical Institute in 1994, it is found that the ratio of mistakes of “Pointing and Calling” is less than one-sixth of “Nothing”.

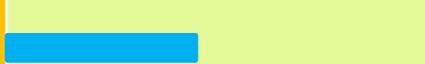
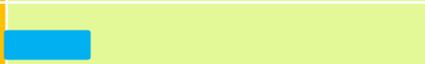
	Mistakes (%)	
1.Nothing		2.38(100)
2.Pointing		1.0(42)
3.Calling		0.75(32)
4.Pointing and Calling		0.38(16)

Figure: Experimental results related to effect of Pointing and Calling(Railway Technical Research Institute)



- Efficacy of Pointing and Calling has been established in the industry, not only train and nuclear industry but also medical field have adopted as medical safety activity of the hospital.

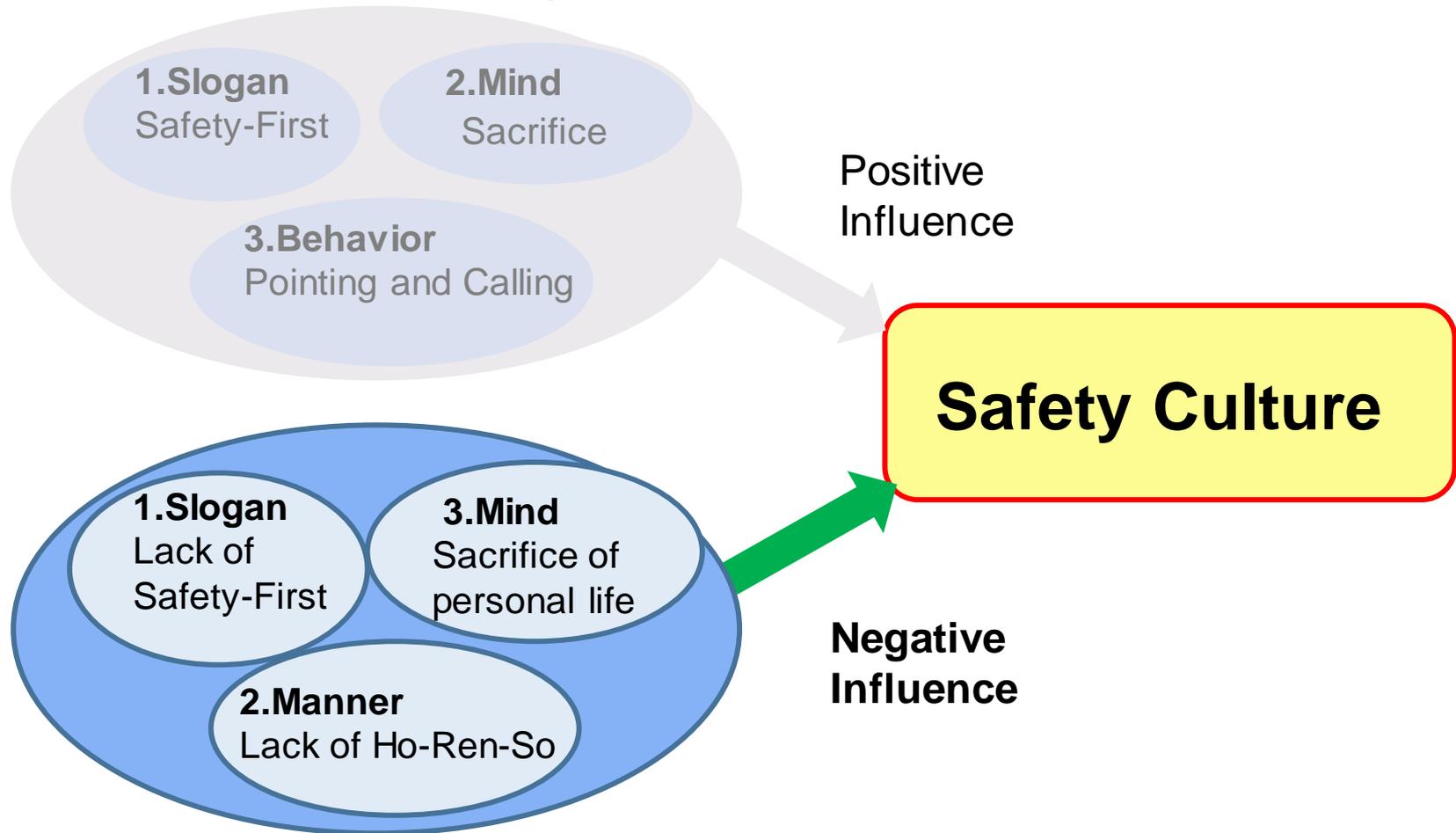
Picture: Kobe city Hospital Organization kobe city medical center west Hospital HP

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b. Cases that affected safety culture negatively



Survey on influences to safety culture against the Fukushima accidents

1. Lack of Safety-First (Licensees)

5.3.2 Management issues and a safety-first attitude^[6]

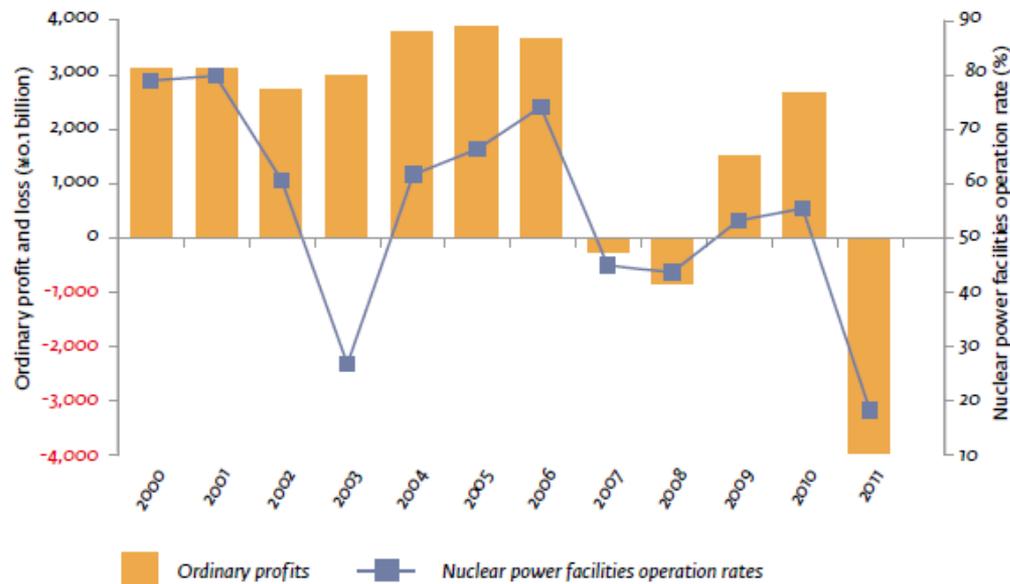


Figure :Nuclear Power facilities operational rate and ordinary profit and loss(Unconsolidated) ^[6]

In recent years at TEPCO, “cost cutting” and “enhancing nuclear power operation rates” were recognized as important management issues.

Although the Nuclear Power and Plant Siting Headquarters and the workplace were being told that “securing safety was the foremost priority,” **it appears that there was a conflict between securing safety and management issues.** ^[6]

Survey on influences to safety culture against the Fukushima accidents

1. Lack of Safety-First (Regulatory Body)

5.4.1 Structural problems to preclude safety culture^[6]

There is therefore **a historical context**: For a nation poor in energy resources, promotion of nuclear power came first in importance.

Safety regulations were introduced to suit the need for “explanations on safety” to local governments, communities near the site, and the nation.

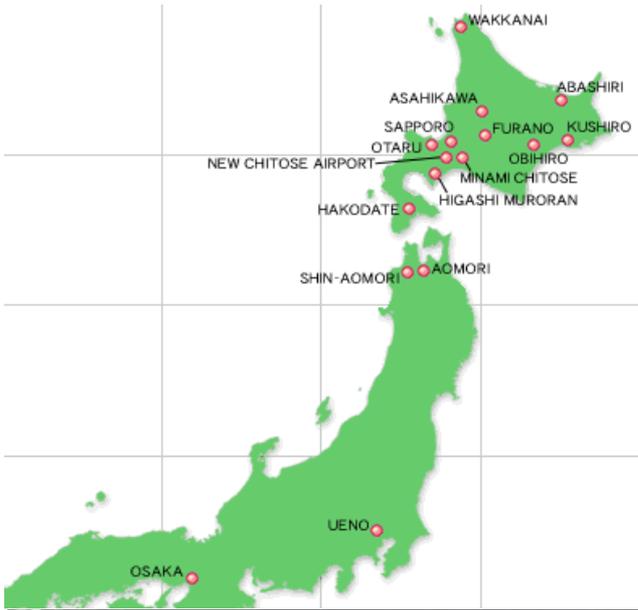
Therein lies the **fundamental reason** why the formulation and development of a sound **safety culture** (which is an attitude that seeks to constantly improve safety to higher levels, to be bold in making changes if necessary, and not to be complacent with the status quo) **was hampered**.



The accident was fully preventable if both the regulatory bodies and TEPCO had been strict about “**safety first**” measures and if they had been more vigilant in their efforts to make the necessary preparations. ^[6]

Survey on influences to safety culture against the other industry

2. Lack of Ho-Ren-So (Reporting, Contacting, Consulting)



Hakodate Main Line freight train
Derailing accident (September,2013)

- Hokkaido railway company is one of the passenger rail company that took over the railway business from Japanese National Railways on April 1, 1987.
- Derailing and fire accident happened at 2011 and other events related to safety management happened frequently.
- Moreover , the accidents by human error continued to happen in 2013. MLIT conducted a special security audit based on the Railway business act several times.
- Some experts have pointed out inadequate Ho-Ren-So(Reporting, Contacting, Consulting) as one of the background which these accidents happen continuously.

Survey on influences to safety culture against the other industry

3. Sacrifice of personal life

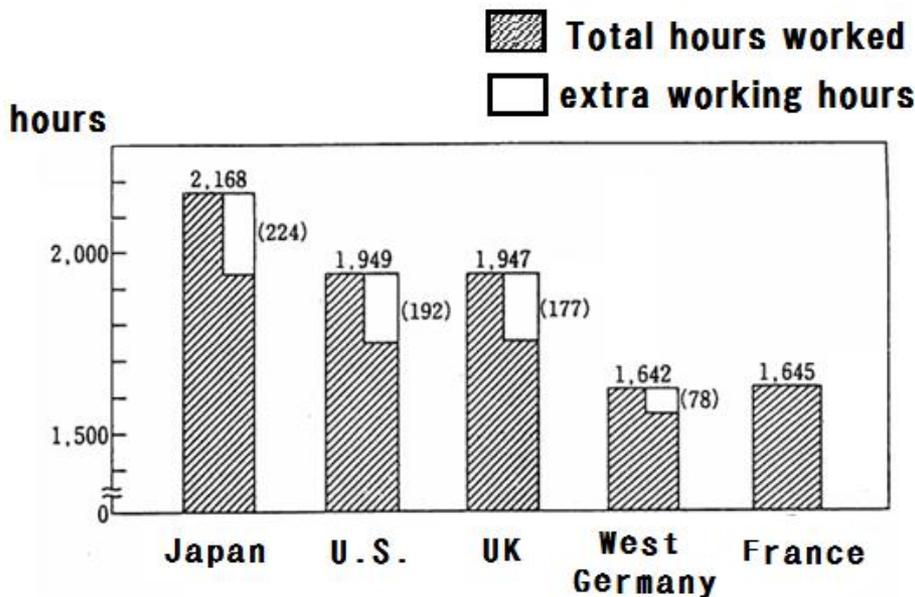


Figure: International comparison of total annual hours worked (manufacture and production maker 1987) [7]

- In the process of high economic growth in Japan, the efficiency and economy has been given priority. And personal life, especially leisure time, has been put aside for a long time.
- In actually, phenomenon that many Japanese feel to work too much and can't realize the richness of life in spite of the economic level has occurred.
- This phenomenon has a factor that leads to decline in the concentration and motivation of work due to stressful and lack of sleep.

[7] Consumer Affairs Agency, government of Japan (CAA)

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Conclusion

- Making an assumption about national culture as patterns of behavior and interactions of human, some Japanese Cultures in the industry can be focused and included both artificial and natural.
- When Organization have been recognizing specific national culture, safety culture can be affected strongly. National culture can be a factor affecting the performance of the organization both positively and negatively.
- Sacrifice seen in the Fukushima accident is one of the key diagnostic signal about an organization's resilience.

Thank you for your attention!