

# Safety



An industrial establishment promises foremost to pay attention to safety to surrounding community, society.

TOYO ensures that Loss of human life must be absolutely prevented and applies all efforts and initiatives to Safety. The time and value for safety aspects are given top most priority.

With the recognition that “safety takes precedence over all other things,” TOYO will continuously impart safety education programs for all its executives and employees to spread awareness of the Safety Culture.

“Safety” is the prime brand of TOYO. In order to boost this brand universally, we are strongly promoting many safety measures and shall actively strive to consolidate a firm Safety Culture.



# Safety Record

We would like to present TOYO Safety record 2007 – 2011 as follows.

Total Recordable Incident Rate (TRIR) shows continuous downward trend and indicates decreasing of number of incidents.

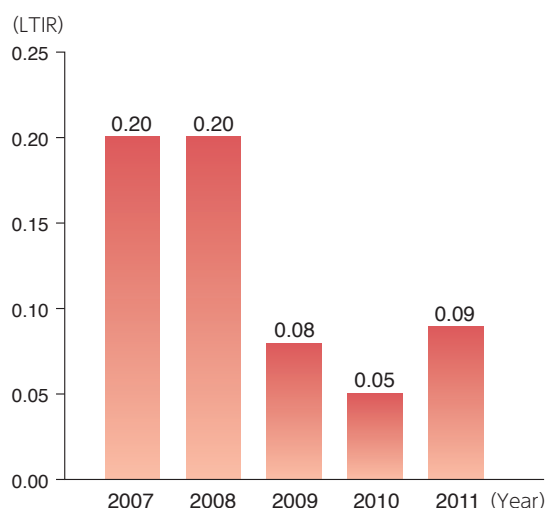
## TOYO Safety record over the past 5 years (ILO base)

Year (Jan to Dec)	Employee Worked (Man-Day) (Thousands)	Employee Hours (A) (Thousands)	Number of Incident					LTI Rate (*1)	Total Recordable Incident Rate (*2)
			Fatalities	Lost Time Incident	Medical Treatment (No Lost Time)	LTI Total (B)	Recordable (C)		
2007	10,559	103,424	1	20	341	21	362	0.20	3.50
2008	13,106	130,287	5	21	247	26	273	0.20	2.10
2009	16,769	164,344	4	9	156	13	169	0.08	1.03
2010	12,012	117,295	1	5	56	6	62	0.05	0.53
2011	8,521	80,783	1	6	12	7	19	0.09	0.24

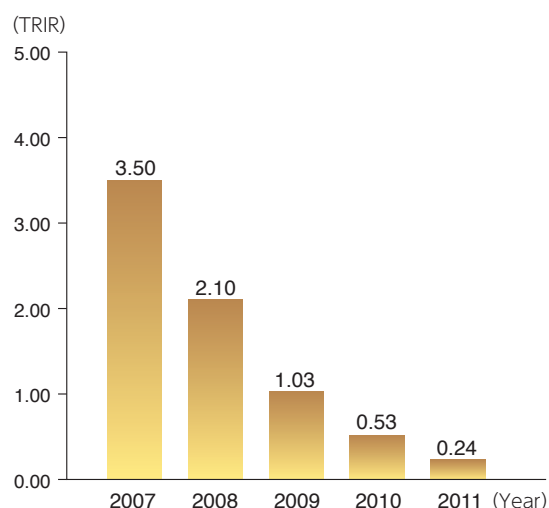
\*1: Lost Time Incident Rate (LTIR) = (B) x 1,000,000 / (A)

\*2: Total Recordable Incident Rate (TRIR) = (C) x 1,000,000 / (A)

### Lost Time Incident Rate (LTIR)



### Total Recordable Incident Rate (TRIR)



# Safety



## Spreading Wings to the World, Safety Culture

### ■ Safety Training

It is hard to impress knowledge about Safety in the mind of executives and employees without promoting adequate safety culture. TOYO, aiming to develop knowledge and awareness for safety at personal level, keeps conducting safety education programs for all executives and employees.

As a precondition, only those who qualify Corporate Safety Training Program are allowed to enter the construction site.



Safety Education in China



Safety Education in Japan

### ■ Safety Meeting

TOYO is aiming to provide uniform level safety management irrespective of countries and regions where it operates. In order to promote safety culture within TOYO, the designated head of HSSE of TOYO Group Companies conduct periodic meetings at pre-decided location, exchange experience and ideas, maintain close communication for improvement of safety management activities.

#### TOYO GROUP HSSE MEETING in China

Following TOYO Group Companies participated.

- Toyo-Japan
- Toyo-Korea
- Toyo-China
- Toyo-Malaysia
- Toyo-India





## ■ Safety Campaign

TOYO holds "Safety Campaign" at all its group companies and construction sites for promoting safety awareness for one month starting 1st July every year that includes not only people at construction sites but also all its executives and employees in office. Various safety programs take place during this period.



Safety Campaign Opening event in TOYO group company



Rescue training at construction site during Campaign



Training of fire-extinguishing at construction site during campaign

### Major Campaign Program

- Message of CEO and top management of respective Toyo group company
- Display of Poster, Banner, Flag
- Display of Personal Protection Equipment
- Introduction of safety activities in relation with accident at construction sites
- Lecture on prevention of heat stroke, traffic safety, electric safety
- Documentary show
- Morning Radio exercise
- Various Training Exercises
- Safety Award

# Safety

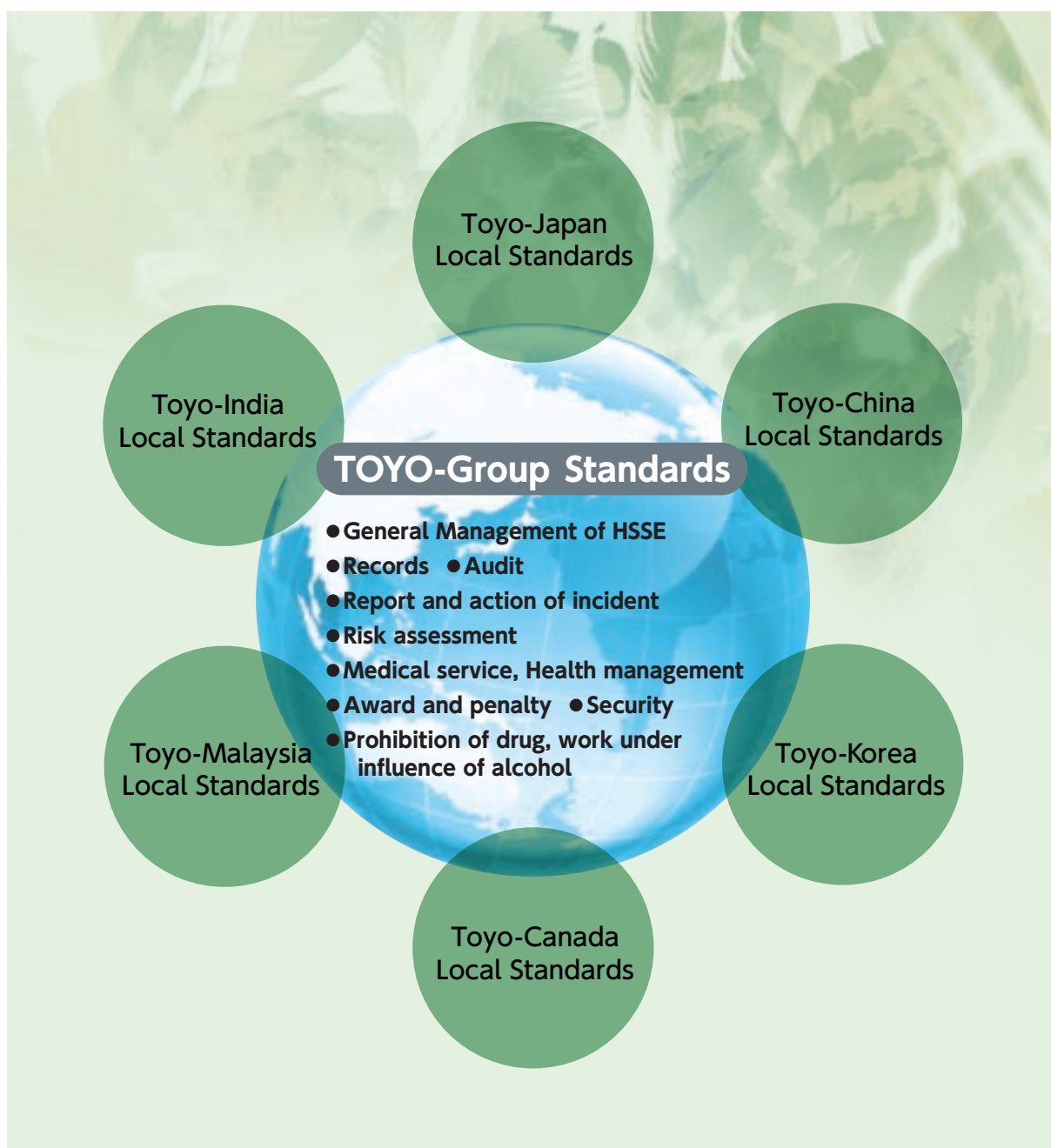


## Support the Safety Culture

### ■ TOYO-Group Standards

Throughout TOYO group companies, there exists TOYO-Group Standards to ensure that safety management is implemented at the same level irrespective of country and region.

TOYO-Group Standards specify minimum safety level to be followed, like minimum allocation of safety staff, requirements of safety protection and so on.



## ■ Training of HSSE Manager

In recent years, specially for mega projects, there is an increase in demand of exclusive HSSE managers. HSSE Manager has overall responsibility of HSSE matters related to the project in addition to the main contact point with client for HSSE related matters.

TOYO is promoting to cultivate HSSE Managers in cooperation with group companies.

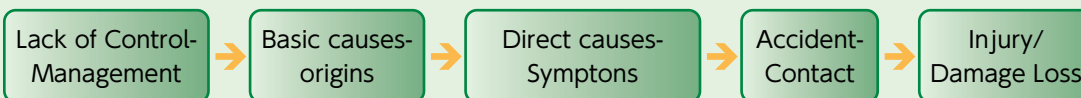


Training session for HSSE Manager

## Safety Tips

### Bird's Domino theory

As per theory founded by Frank Bird Jr, U.S.A., work related injury or death occurs like chain reaction, called as domino. The theory states that accidents result from a chain of sequential events, metaphorically like a line of dominoes falling over. When one of the dominoes fall, it triggers next one. By cutting in at one point of chain reaction, accident is prevented. Firstly, the countermeasure for "Lack of Control", that is, enhancement of management system, is important as well as reducing "Basic Cause" and "Direct Cause." Therefore strict enforcement of risk assessment which evaluates the influence of these causes in advance becomes important.



### Personal protection equipment

In construction site, workers wear helmet, goggle, earplug, glove, safety belt, safety shoes as a safety measure. Safety belt is categorized in two types. One is simple type as body belt and the another is full harness type which is put on thigh and shoulder with belt to protect body completely. Belt type is still widely used in Japan however worldwide commonly known safety belt means harness type. TOYO standardizes the use of full harness type of safety belt throughout at its worldwide projects.



### Confined work

Accident due to Oxygen deficiency, caused by inert gas accumulation, is one of 3 major fatal accidents in construction site, others being accidents like falling down and electrocution.

In order to work safely in confined space such as tank/vessel, concentration of Oxygen as well as toxic and flammable gas must be checked prior to entering the work area as well as during the work periodically.

Normally, Oxygen concentration in air is 21%, but when it falls to 18% or less, it leads to asphyxia. Below 16% Oxygen, depending on individual, the person suffers from headache and/or feel nausea. When Oxygen concentration reaches to 6% or less, it results in losing consciousness and subsequently leads to stoppage of breathing, resulting into death.

