



Review

Work safety in China's Thirteenth Five-Year plan period (2016–2020): Current status, new challenges and future tasks



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ABSTRACT

The problem of work safety greatly affects many parts of the world, especially developing countries such as China. The release of the Thirteenth Five-Year Guideline for National Economic and Social Development in March 2016 marked the beginning of China's Thirteenth Five-Year Plan (13th FYP) period (2016–2020). Work safety continues to be a national priority. Since the release, a newly important work safety policy, namely the 13th FYP for Work Safety has been announced on February 3, 2017 in accordance with the Thirteenth Five-Year Guideline for National Economic and Social Development. What is the current status, what are new challenges and future tasks of work safety during China's 13th FYP period? The two key objectives of this paper are: (1) to analyze the current status of work safety in China, and (2) to introduce the new challenges and future tasks during China's 13th FYP period briefly. Firstly, a statistical analysis of accidents and occupational diseases in recent years in China was carried out, and a brief introduction to safety management on the national level in China has been given to analyze the work safety status in the whole of China. Secondly, combining with the demand for economic and social development in China, and according to the suggestions in the 13th FYP for Work Safety and the current status of work safety in China, the new challenges and future tasks of work safety during China's 13th FYP period are also introduced. This study can promote the cooperation and exchange of knowledge on work safety between China and other countries to provide evidence-based services for work safety.

1. Introduction

Accidents not only cause serious human and financial losses, but also result in an extremely bad influence on society. Hence, the sustainable, rapid and healthy development of the national economy and of social stability is facing, as one of its critical problems, safety (Zhong et al., 2004; Liu et al., 2005). Safety is also an important symbol of social civilization and progress (Liu et al., 2005). Moreover, it is one of the basic policies in China. Considering that safety problems are complicated and the people's need for safety is continuously increasing, locating an effective safety solution is essential and urgent. At present, many countries around the world are taking various strategies and measures (e.g. scientific research, technology, legislation, administration, education and economy) to gradually reduce their nation's accidents and fatalities.

Although China is a developing country, it has already become one of the largest global producers and the world's most populous country (Rowley, 2012). However, it is also one of the most accident-influenced countries in the world because of the frequency of the occurrence of accidents. Several policies have been implemented to address issues related to safety, including mine safety, construction safety, chemical safety, traffic safety, etc. (SAWS, 2016a). Unfortunately, accidents are still very much present in China threatening people's lives, economic development and social stability (SAWS, 2016a; General Office of the State Council of PRC, 2017). Even with steady safety improvements in recent years, tens of thousands of people are still killed in accidents each year in China (SAWS, 2016b), many times the corresponding fatalities in developed countries, such as the United States and the European countries. China thus has an urgent need to strengthen the capacity to guarantee work safety.

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On March 16, 2016, the Thirteenth Five-Year Guideline for National Economic and Social Development was approved at the annual meeting of the National People's Congress of PRC, marking the beginning of the Thirteenth Five-Year Plan (13th FYP) period (2016–2020). Work safety continues to be a national priority. On February 3, 2017, an important government document detailing new work safety targets and programs, namely the 13th FYP for Work Safety was drafted by the General Office of the State Council of PRC in accordance with the Thirteenth Five-Year Guideline for National Economic and Social Development. Moreover, the document 'Several Opinions of the Central Committee of the Communist Party of China and the State Council of PRC on Accelerating the Reform and Development of Work Safety' (State Council of PRC, 2016) was issued in December 2016, which is a milestone in China's work safety history because it is the first programmatic document for work safety issued directly by the Central Committee of the Communist Party of China and the State Council of PRC since the establishment of PRC in 1949. What are the new challenges and future tasks of work safety in China's 13th FYP period? To answer this question, we conducted a systematic review of the new safety targets and programs. However, it is necessary first to analyze the current work safety situation in China. We limited our search to the national level, where the majority of work safety policies, laws and regulations are formulated. However, we acknowledge that provincial and municipal programs also play a role in work safety. Obviously, this study can promote the co-operation and exchange of knowledge on work safety between China and other countries to provide evidence-based services for work safety (Wang et al., 2017).

2. Analysis of the current work safety status in China

2.1. Statistical analysis of accidents

This section provides an overview of the accident situation in the whole of China. The statistical data for this section comes from a number of sources. Data about China's accidents originates from the SAWS, the China Work Safety Yearbooks (2004–2014) and the State Statistics Bureau of China; and data about the total gross domestic product (GDP) comes from the China Statistical Yearbooks (1990–2015). In this sort of research work, researchers (Liu et al., 2005; Wu et al., 2009) almost always choose the above-mentioned organizations or publications as their data sources.

According to Article 14 of 'Work-related Injury Insurance Regulations' (State Council of PRC, 2010), work-related or, in other words, occupational injury of workers is recognized in the following cases:

- Injured in an accident at work during working hours in the workplace.
- Injured in an accident while engaging in preparatory or finishing-up work related to work before or after working hours in the workplace.
- Injured by violence or in other accidents in one's performance of job duties during working hours in the workplace.
- Suffering from an occupational disease.
- Injured at work in an accident during work-related travel where ones whereabouts are unknown.
- Injured by automobile on the way to and from work.
- Other cases justified by laws and regulations.

Article 15 of the insurance regulations has provided additional items:

- Dead immediately or within 48 h after emergency treatment for a disease suddenly arising during working hours in the workplace.
- Injured in an act to protect national interests or public interests such as emergency rescue and disaster relief.

- Injured and disabled in war or on duty while in military service and has obtained a revolutionary injured and disabled soldier certificate, but suffers from a relapse of the old injury while being employed by the employer.

In China, an accident is defined as an unexpected and untoward event that causes casualties or economic losses in production and business operation activities (State Council of PRC, 2007; SCNPC, 2014). According to Article 3 of the 'Byelaw Governing Reporting, Investigation and Handling of Accidents' (State Council of PRC, 2007), accidents shall in general be divided into the following levels in terms of bodily injuries and deaths or direct economic losses resulting from the accident: all categories include acute industrial poisoning resulting in serious injury.

- Particularly serious accident: refers to an accident that has resulted in over 30 cases of death or over 100 cases of serious injury or over 100 million RMB (Renminbi) direct economic losses.
- Major accident: refers to an accident that has caused over 10 but below 30 cases of death, or over 50 but below 100 cases of serious injury, or direct economic losses amounting to over 50 million but below 100 million RMB.
- Serious accident: refers to an accident that has resulted in over 3 but below 10 cases of death, or over 10 but below 50 cases of serious injury, or direct economic losses over 10 million but below 50 million RMB
- Ordinary accident: refers to an accident that has resulted in below 3 cases of death, or below 10 cases of serious injury, or direct economic losses of below 10 million RMB.

"Over" as used in this article describes a category that includes the cited number and "below" does not include the cited number. We realized that these definitions do not correspond at all to the Western notion of incident/accident. However, these are the official definitions used in China. This may reflect the very large number of fatalities occurring each year in China and perhaps the desire on the part of the authorities to lower the figures in the serious accident category by using this high definition. Obviously, the grading standard for an accident in China is faced with a problem of being in conformity with the international standard.

In China, serious injury can be identified by the 'Standard for the Identification of Human Body Injury Degree' (Ministry of Public Security of PRC, 2013). According to its Article 2, serious injury refers to any of the following:

1. injuries resulting in a person's disability or disfigurement;
2. injuries resulting in a person's loss of his hearing, sight or the function of any organ; or
3. other injuries that cause grave harm to a person's physical health.

According to the 'Statistical Reporting System of Accidents' (SAWS, 2014a), an accident has to be reported if it has resulted in one case of death or more, or one case of serious injury or more, or direct economic losses of one million RMB or more. Fatalities are counted if they occur within 30 days after the accident, except for fatalities in road accidents and fire accidents which are counted if they occur within 7 days after occurrence. The statistical analysis of accidents in this study is based on reportable accidents. Although the 'Production Safety Law of PRC' (SCNPC, 2002, 2014) and the 'Statistical Reporting System of Accidents' (SAWS, 2014a) make strict requirements for accident-reporting and prescribe legal penalties for under-reporting, there are still accidents that have not been reported for various reasons, such as the lack of safety supervision, avoiding the severe punishment for accidents, reducing the impact of accidents on the local governments' and personal achievements, as well as the enterprise reputation (Yuan et al., 2014). To reduce and avoid the under-reporting, China should adopt a series of

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