India: The Ongoing Challenge of Worker Safety and Health

Dr. Foster C. Rinefort, Emeritus Professor of Eastern Illinois University, USA
Dr. Joseph A. Petrick, Emeritus Professor of Wright State University, USA

ABSTRACT

As the most populous democracy in the world and an aspiring global superpower, India needs to nurture its human capital through continually improving occupational safety and health (OSH). At present, measuring and improving India's workforce OSH is challenging because only 10% are employed in the organized formal sector, mainly in industry, mining and some services, and all Indian workers are confronted with the following conditions: oversupply of cheap labor, paltry public spending on OSH, stakeholder resignation to unsafe OSH conditions, inadequate implementation of existing legislation, multiple infrastructure problems including unenforced traffic management, lack of reliable OSH data and measurement, and a shortage of OSH expertise and professionalization institutions. The four most important needs for improving Indian OSH are: (1) legislation and enforcement to extend OSH coverage to both the informal and formal economic sectors; (2) dissemination of and appropriate scaling of model OSH programs along with stiffer financial and nonfinancial penalties for violations of Indian OSH laws; (3) increased public expenditures for adequate staffing of OSH agencies and their integration with primary health care in India; and (4) development of OSH infrastructure and professionalization processes and institutions.

INTRODUCTION

India is home to more than a sixth of the world's population and has a long history of coping with numerous invaders including the early Greeks (Aiyer, 2014). Beginning in the 16th century, the country was ruled by the Mughals from central Asia and then the Europeans notably the British from the 18th century to shortly after World War II. Independence was achieved in 1947 through the freedom struggle led by Mahatma Gandhi (Denyer, 2014). At that time the country was partitioned into a predominantly Hindu India and a Moslem Pakistan, which in turn later subdivided into Bangladesh, another much smaller Moslem country. The legacy of British rule remains with India through a unifying English language, a parliamentary democratic system of laws and administration, a relatively free media, and the remnants of an infrastructure of railways and roads.

After Mahatma Gandhi, the first Indian Prime Minister, Jawaharlal Nehru, adopted a mixed model of economic development that relied on heavy state control with ruling political parties engaging in fiscal profligacy (Guha, 2007). In the 1990s, there was a turn toward reliance on more market forces with GDP reaching 6% but it resulted in jobless growth with hardly any perceptible impact on the reduction of national poverty (Nayak, 2015; Chakravarty, 1994). During 2005-2008, however, India produced a 9% GDP and alongside China emerged as the two fastest growing economies, together accounting for 36% of the world's population (Navak, 2015). This favorable economic growth was disrupted by the global financial recession that originated in the USA resulting in tepid growth thereafter (Petrick, 2009).

In May 2014, Narendra Modi, the first Indian Prime Minister to be born after that nation's

independence was inaugurated (Mukhopadhyay, 2013). His win over the establishment Congress party of Gandhi and Nehru was a landmark event in Indian politics. Modi served for fourteen years as elected Chief Minister of his home state of Gujaret and focused on economic development including cotton production, rural electrification, water conservation, and electric power distribution. His emphasis on both economic growth and distributive justice became a touchstone of his campaign. While Modi was a Hindu nationalist from the Ghanchi caste, he maintained that his modern political emphasis on inclusive equality would override the inherently hierarchic nature of his Hindu beliefs (Mukhopadhyay, 2013).

The structure of this article addresses the issues that face Modi with regard to Indian OSH in the following manner: (1) overview of Indian and Chinese economies and labor forces; (2) measures of OSH in India and China; (3) overview of current OSH context in India; and (4) recommendations for improving OSH in India.

OVERVIEW OF INDIAN AND CHINESE ECONOMIES AND LABOR FORCES

It is always helpful to understand and evaluate a national economy and its labor force by making an appropriate comparison. In this case, the two major economic superpowers of Asia both with over a billion people provide such an appropriate comparison. Table 1 provides this overview comparison.

Table 1: Comparative Indian and Chinese Economies and Labor Forces

COMPARATIVE FACTOR	INDIA	CHINA
Gross domestic product	US$1.9trillion/($4.9tppp)	US$9.3trillion/($13.4tppp)
Change in gross domestic product	5.7%	7.7%
Population	1.23 billion	1.35 billion
Change in population	+1.3%	+.4%
Percent of population in poverty	31%	6%
Gross domestic product per capita	US$1,600/($5,200ppp)	US$7,000/($9,800ppp)
Budget deficit as % of GDP	(5.6%)	(2.1%)
Public debt as % of GDP	(52%)	(22%)
Inflation rate	8%	3%
Official rate of unemployment	8.8%	5%
Labor force	691 million	798 million
Labor force by sector: Agriculture	51%	30%
Labor force by sector: Industry	16%	21%
Labor force by sector: Manufacturing and Mining	5%	18%
Labor force by sector: Services	28%	31%
Public expenditure on health as % of GDP	1.3%	2.7%

Sources: CIA Editors, 2014; IED Editors, 2014; Parussini, 2014; Zhong, 2014

Table 1 displays a number of key differences between India and China: (1) the GDP for China is nearly five times that of India but the purchasing power parity (ppp) or buying power difference of China is less than three times that of India; (2) the positive change in GDP is 2% higher in China; (3) the increased population change is three times higher in India normally indicating a growing younger nation with aspirations for a middle class lifestyle; (4) the percent of the population living in poverty is over five times higher in India than in China, when poverty is operationally defined as less than US$2.50 per day or US$897 per year (ppp) (Zhong, 2014); (5) the GDP per capita is over four times higher in China than in India; (6) the budget deficit as a percentage of the GDP for India is two and a half times higher than that of China; (7) the public debt as a percentage of GDP in India is over twice as much as that of China,

indicating public sector constraints on future expenditures; (8) the inflation rate in India is 5% higher than in China which continues to erode Indian standards of living and employer funds for OSH expenditures; (9) the official rate of unemployment is over 3% higher in India than in China and is probably woefully underestimated since 90% of the Indian labor force is either in the self-employed unorganized sector or in the no regular work sector of marginal migrant day laborers (usually not paying income taxes); (10) China has more than 100 million more workers than India and they are distributed differently in the agriculture, industry, manufacturing and mining, and services sectors, indicating fewer workers in the inefficient agriculture sector and more workers in the other sectors than India; and (11) the Indian public expenditure on health care as a percentage of GDP is less than half that of China, which is a particularly paltry amount in light of the fact that the population living in poverty is over five times higher in India than in China.

The big picture economic and labor force context points toward the inevitable problematic consequences that ensue regarding OSH in India (Dreze and Sen, 2013).

MEASURES OF OSH IN INDIA AND CHINA

At the outset it must be acknowledged that accurate and comprehensive statistics on workplace fatalities are notoriously difficult to obtain in India (Pingle, 2012; Saiyed and Tiwari, 2004). The official record of Indian workplace fatalities is provided by the Director General of the Factory Advisory Services & Labour Institutes (DGFASLI) but this record consists of data from formal registered factories which employ only about 5% of the total Indian workforce. As a result the official Indian record grossly underestimates the actual workplace fatalities and the most realistic estimate of actual Indian workplace fatalities is a compilation of estimates from the International Labour Organization (ILO) and the US National Safety Council contained in Table 2.

The inevitable problematic consequences of OSH in India are also best understood and evaluated by making a selective appropriate comparison with China. Table 2 provides a selective comparison of OSH measures in India and China.

Table 2: Comparative Measures of OSH in India and China

WORKPLACE FATALITIES	INDIA	CHINA
Number of estimated work fatalities	209,160	147,900
Rate of workplace fatalities per 100,000 workers	42	30
MOTOR VEHICLE FATALITIES AND INJURIES	INDIA	CHINA
Number of motor vehicles	51 million	255 million
Motor vehicles per capita	1 in 12	1 in 5
Estimated motor vehicle fatalities	243,475	275,983
Fatalities per 100,000 people	20	21
Estimated motor vehicle injuries	7,204,000	5,385,000
Motor vehicle injuries per 100,000 people	58	40

Sources: Hoskin, 2004; Mohan, 2004; Pingle, 2012; CIA Editors, 2014; Rinefort, Petrick & Yen , 2008.

Table 2 displays a number of key differences between India and China: (1) the number of estimated work fatalities in India exceeds that of China by 161,260, even though (from Table 1) India has 107,000,000 fewer workers than China. This is an alarming comparative estimate and an indication of the critical loss of human capital in India requiring urgent attention; (2) the Indian rate of workplace fatalities

per 100,000 workers is 12 workers higher than that of China, indicating the higher safety and health risks that Indian workers face relative to those in China; (3) although China has many more vehicle drivers and five times as many vehicles on their roads as does India, there is only a 32,508 difference in estimated motor vehicle fatalities between the two countries, posing a proportionately higher transportation risk for Indian workers, especially since the estimated fatalities per 100,000 people are nearly identical; (4) given that India only has one fifth of the motor vehicles that China has on the road, it is astounding that it has 1,819,000 more estimated motor vehicle injuries than China, directly increasing the relative injury risks facing Indian workers as they commute back and forth to work every day and/or drive as part of their work responsibilities; and (5) the Indian rate of motor vehicle injuries per 100,000 people is 18 workers higher than that of China, indicating again the higher safety and health risks that Indian workers face relative to those in China.

These comparative measures of OSH in India and China demonstrate the relative severity of safety and health risks faced by Indian workers compared to Chinese workers (Chenoy, 2012; Pringle, 2012; Saiyed and Tiwari, 2004). These comparative OSH figures are particularly disconcerting because India purports to be a country supportive of human rights with a democratic tradition whereas China is an authoritative, totalitarian regime with stringent financial and nonfinancial penalties for OSH violations. Such figures emerge out of the current Indian OSH legislation and policies to which we now turn.

OVERVIEW OF CURRENT OSH CONTEXT IN INDIA

The current OSH context in India includes three key factors: legislation, policies and OSH organizational networks. First, with regard to legislation, the Indian constitution calls upon the government to legislate in order that the health of citizens is not abused and to secure just and humane conditions of work. While there are laws in India relating to working hours, conditions of service and employment, the three key laws for OSH protection are the Factories Act (1948), the Mines Act (1952) and the Employees State Insurance (ESI) Act (1948). The Factories Act provides for pre-employment and periodic medical examinations and mandatory, periodic monitoring of the work environments in designated hazardous industries. Maximum permissible limits have been established for 116 identified chemicals and substances (Pingle, 2012). The Mines Act has similar provisions and both are implemented by the State Factory Inspectorates. The Factories Act is applicable only to factories employing 10 or more workers and covers only about 13 million workers (Pingle, 2013). The ESI Act covers benefits in case of sickness, injury and death and is applicable to non-seasonal factories employing 10 or more workers and other facilities employing 20 or more workers, covering about 15.4 million employees. There are also a smattering of legal OSH provisions for special groups of workers in the formal sector of the economy, such as those that work on the docks or in building and construction trades, but most of the informal economic sector workers are not legally protected by the State.

With regard to key policies, the national government, after prolonged deliberations, approved the National Policy on Safety, Health and Environment at Workplaces (NPSHEW) in 2009. The policy provides stakeholder guidelines for developing and maintaining a workplace culture that adheres to safety, health and environmental standards, with proposed statutory frameworks, administrative support, incentives and prevention strategies. To date, however, this policy proposal has not been implemented (Nayak, 2015). In the meantime, over 90% of the Indian workforce is relatively unprotected and exposed to occupational health and safety risks which can lead to fatalities and occupational diseases such as

silicosis, lung disease, pesticide poisoning, asbestosis, noise induced hearing loss, and extreme work stress (Navak, 2015).

With regard to OSH organizational networks, there is no government agency or department that deals exclusively with OSH matters in India (Pingle, 2013). DGFASLI deals with OSH matters from licensed factory workers, whereas the Directorate General of Mines Safety deals with the OSH matters of miners. OSH responsibilities are operationally split between two ministries: the Health Ministry and the Ministry of Labour. The former provides primary health care and medical education while the latter coordinates national OSH policies that are administered at the state level through the Directorate of Industrial Safety and Health which employs staff to inspect designated work conditions. However, the number of medical staff and occupational engineers employed through the states are grossly inadequate (Pingle, 2013; Navak, 2015). At times other interlinked ministries, such as the Ministry of Law, the Ministry of Health and Welfare, the Ministry of Environment and/or the Ministry of Agriculture, may become involved in certain OSH issues. Injured Indian workers seeking OSH assistance are often confronted with a maze of bureaucratic paperwork, deadlines and agency protocols that inhibit access and delay efficient processing of claims.

Among the major non-governmental organizations (NGOs) that address OSH issues in India, are the ILO, the Indian Association of Occupational Health (IAOH), and the National Safety Council of India (NSCI). Some ILO conventions regarding OSH standards have been adopted by India (ILO conventions on radiation protection and benzene) but other ILO conventions on asbestos and chemicals at work are still under consultation, while others are yet to be ratified. The NSCI offers short term training courses and materials regarding OSH best practices. The IAOH has 24 branches across India, has over 3,000 physicians and OSH professionals as members, and proactively increases public OSH awareness, informally influences State policy, engages in OSH research and training, and publishes a professional occupational and environmental health journal (Pingle, 2012).

The net result is that most Indian workers are not protected from OSH risks and even those that have legal protection find the process of obtaining financial assistance filled with bureaucratic obstacles. It is time to consider some recommendations for improving the OSH context in India.

RECOMMENDATIONS FOR IMPROVING OSH IN INDIA

There are at least four key recommendations for improving the OSH context in India including: (1) legislation and enforcement to extend OSH coverage to both the informal and formal economic sectors; (2) dissemination of and appropriate scaling of model OSH programs along with stiffer financial and nonfinancial penalties for violations of Indian OSH laws; (3) increased public expenditures for adequate staffing of OSH agencies and their integration with primary health care in India; and (4) development of OSH infrastructure and professionalization processes and institutions.

With regard to the first recommendation, since existing OSH legislation covers at most only 10% of the Indian workforce, the first step toward distributive justice is the inclusive and equal protection of all Indian workers in both the formal and informal economic sectors. The disproportionate workplace fatalities, injuries and OSH risks that Indian workers in the informal sector experience cannot be justified in a democratic society. In addition, the uniform and widespread enforcement of existing OSH laws would do much to raise the level of public confidence in the efficacy and fairness of OSH laws and to ease industry concerns about preferential legal treatment accorded particular industries or enterprises (Sengupta, 2015).

With regard to the second recommendation, the carrot and stick approach to accelerate OSH improvement seems warranted. The carrot would be identifying those initiatives of progressive organizations and/or industries which have adopted model OSH programs, disseminating that information widely, and appropriately scaling OSH programs for small, medium and large organizations. Offering financial incentives and/or nonfinancial recognition to organizations that adopt higher OSH standards and practices would be part of this recommendation. Model OSH programs would not only offer emergency medical services to Indian workers but would also offer preventive, promotional and curative health services to their workers. For OSH-resistant organizations the stick approach of appropriate, stiffer financial and nonfinancial penalties for violations of Indian OSH laws would be warranted (Nayak, 2015).

With regard to the third recommendation, increased public expenditures to properly staff government OSH agencies is critical. Professionally trained OSH medical, engineering and managerial personnel in adequate numbers are essential to effectively implementing OSH best practices in workplaces. In addition, OSH interventions and treatments need to be integrated with the primary health care in India. OSH concerns should not be regarded as isolated from or inaccessible to treatment in primary health care centers throughout India.

With regard to the fourth recommendation, to sustain OSH improvements in India a broad infrastructure supportive of OSH best practices needs to be enacted. This supportive infrastructure would include everything from the mundane such as improved roadways, training of drivers and police, enforcement of tougher substance abuse driving laws and increased seat belt use, to regular rank-and-file OSH training in factories, plants and other workplaces, to more sophisticated receptiveness of Indian judicial activism with respect to public interest litigation on OSH cases. In addition, the steady development of Indian OSH expertise through advanced graduate education and training certifications of future OSH professionals along with a national accrediting and certification agency to establish Indian national standards for OSH through collaborations with relevant NGOs and other domestic and international professional OSH organizations would institutionalize the resources to deal with current and ongoing challenges of worker safety and health in India.

CONCLUSION

The ongoing challenge of engaging and resolving Indian OSH issues is daunting but through steady implementation of the improvement recommendations over time, India will meet the aspirational expectations embedded in its constitution to legislate in order that the health of every Indian citizen is not abused and to secure just and humane conditions of work for all Indian workers.

.

REFERENCES

Aiyer, S. (2014). *Accidental India: A history of the nation's passage through crisis and change.* New Delhi: Aleph.

Chakravarty, S. (1994). "Development economics and the Indian experience." In (K. Basu and P. Nayak, Eds.) *Development Policy and Economic Theory*. New Delhi: Oxford University Press.

Chenoy, D. (2012). *India infrastructure report*. New Delhi: Indian National Skills Development Corporation.

CIA Editors. (2014). *CIA World Factbook: China and India*. Washington, D.C.: General Printing Office.

Denyer, S. (2014). *Rogue elephant: Harnessing the power of India's unruly democracy*. New York: Bloomsbury.

Dreze, J. and Sen, A. (2013). *An uncertain glory: India and its contradictions*. New Delhi: Allen Lane.

Guha, R. (2007). *India after Gandhi.* New Delhi: Picador.

Hoskin, A. (2004). *International accident facts: India.* Third Edition. Itasca, IL: National Safety Council.

IED Editors. (2014). *Indian Economic Data*. http://www.tradingeconomics.com/India.

Mohan, D. (2004). *The road ahead: Traffic injuries and fatalities in India.* Geneva: WHO.

Mukhopadhyay, N. (2013). *Narendra Modi: The man, the times*. New Delhi: Tranquebar.

Nayak, P. B. (ed.) (2015). *Economic development of India*. London: Routledge.

Parussini, G. (2014). "Indian central banker bet pays off," *Wall Street Journal*, 9/4/14, A10.

Petrick, J. (2009). "Toward responsible global financial risk management: The reckoning and reform recommendations," *Journal of Asia-Pacific Business*, 10: 1-33.

Pingle, S. (2012). "Occupational safety and health in India: Now and the future," *Industrial Health*, 50: 167-171.

Rinefort, F., Petrick, J. and Yen, V. (2008). "The ongoing challenge and promise of managing China's workplace safety," *Global Business & Financial Review*, 13 (1): 48-59.

Saiyed, H. and Tiwari, R. (2004). "Occupational health research in India," *Industrial Health*, 42: 141-148.

Sengupta, H. (2015). *Recasting India: How entrepreneurship is revolutionizing the world's largest democracy.* New York: Palgrave Macmillan.

Zhong, R. (2014). "New poverty formula," *Wall Street Journal*, 7/28/14, A2.