

Training Construction Workers for Sustainable Environment

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Abstract

Sustainable environment is the only answer to safeguard our future from depleting away natural resources. We need to save our environment as already it is under tremendous pressure due to extensive urbanization. Worldwide the concept of green buildings is fast catching up. New eco friendly materials and construction methods that will safeguard our natural resources are being developed. Indian construction industry is also doing its best to follow the objectives of sustainable buildings.

- Social progress while recognizing the needs of everyone.
- Maintenance of high and stable levels of economic growth and employment
- Effective protection of the environment
- Prudent use of natural resources

Construction industry is the fastest growing industry in India. The sector is labour-intensive and, including indirect jobs, provides employment to more than 35 million people.

A highly unorganized sector which contributes annual GDP of 670,778 crores .The worker who is contributing this huge amount remains poor and his standard of living unchanged.

This is because his skills are not being updated as per the need of the construction industry. Sustainable Buildings can be only built in true sense if the worker is aware about handling efficiently natural resources .Methods have to be employed to provide him with right skill sets so that he can construct sustainable buildings thus increasing the efficiency of resources and reducing the impact on human health.

As per a survey about 79% of the workers are unskilled and majority of them are women. Proper training and certification methods have to be employed to train construction workers and thus increase their employability factors. Government should tie up with industry in training this huge workforce to achieve its target of providing Sustainable Environment

Keywords: Sustainable built environment, skilled workers, skills, training.

1. Introduction

Construction industry of India is an important indicator of the development as it creates investment opportunities across various related sectors. The construction industry has contributed an estimated 670,778 crore to the national GDP in 2011-12 (a share of around 8%). The industry is fragmented, with a handful of major companies involved in the construction activities across all segments; medium sized companies specializing in niche activities; and small and medium contractors who work on the subcontractor basis and carry out the work in the field. The sector is labour-intensive and, including indirect jobs, provides employment to more than 35 million people.

By 2025, it is estimated that 70 per cent of Indians will be of working age. This 'demographic dividend' could give India an edge over the developed countries where a larger segment of the population would by then be past retirement. However, this demographic dividend can easily turn into a demographic disaster if a majority of the working age population remains unemployable due to a lack of skills. Even today, one hears of a shortage of skilled workers across industries, which does not augur well for sustaining India's economic growth. The construction industry lacks sufficient plumbers and construction machine operators, resulting in a slowing of construction activity and increasing the overall cost of projects, posing a major challenge to India's infrastructure development plans

Construction industry in India is growing in excess of 16% p.a. and is likely to reach 500000 crore billion by the end of the XIIth Five Year Plan period. In this industry, skills and knowledge are the driving forces of economic growth and social development. The economy becomes more productive, innovative and competitive through the development of more skilled human capital. There is always a difference between knowing and performing, and the gap is explained by inadequacy of skill.

The housing sector in India is growing at a rapid pace and contributing immensely to the growth of the economy. This accounts well for India and now there is an imminent need to introduce green building and techniques in this sector, which can aid growth in a sustainable manner.

The Census of India has estimated that by 2026, urban population would rise to around 535 million or 38.2 percent of the total population. This means an addition of 250 million persons or near doubling of urban population in about two decades from now with reference to 2001 (285 million). (Source: Ministry of Urban development)

By 2030, the country is expected to have 68 cities with a population of more than one million, 13 cities with more than 4 million people and 6 megacities with populations of 10 million or more, with Mumbai and Delhi among the biggest cities worldwide. (Source: Ministry of Urban development)

Today, the living standards of people are changing, affordability of people is improving, and therefore adequate housing & infrastructure are at most important for Nation. We have a challenge in both demand & supply. The only solution to this is sustainable habitats.

The housing industry in the country needs to provide a shift towards sustainable consumption and production to meet the goals of sustainable development

2. Skill Development in Construction Industry

Skill development industry in India has seen a rapid growth in response to the urgent needs of the industry, as well as due to significant impetus provided by the government. The central government's concern with this shortage of skilled workers is best described in the words of the Indian Prime Minister, Manmohan Singh, 'As our economy booms and as our industry grows, I hear a pressing complaint about an imminent shortage of skilled employees. As a country endowed with huge human resources, we cannot let this be a constraint' (Government of India 2011 a).

In the absence of any institutional mechanism for skill formation, construction workers continue to be trained by the traditional master craftsmen. Apart from its inadequacy in quantitative terms, the traditional system neither utilizes new technologies and work methods, nor does it absorb the benefits of research and development. Also, women workers are not trained in any trade and they remain head load carriers or helpers, all their working life.

It may be mentioned that authoritative serial data on the size of construction workforce and its distribution by skill, are not available. It is estimated that about 310 lakh workers are working in the construction sector, of which 79% are unskilled. Out of this, 210 lakh workers are seasonal construction workers and the balance are regular construction workers. Women constitute 23%-27% of the construction workforce.

The 2009 National Policy on Skill Development laid the institutional structure for skill development in the country at various levels. The three tier institutional structure consists of the PM's National Council on Skill Development, the National Skill Development Coordination Board and the National Skill Development Corporation.

3. Relevance to Sustainable Training

3.1 Sustainable Buildings

"A building which can function using an optimum amount of energy, consume less water, conserve natural resources, generate less waste and create space for healthy and comfortable living, as compared to conventional buildings, is a green building"

These buildings have minimum adverse impacts on the built and natural environment, in terms of building themselves, their immediate surroundings and the

broader regional and global setting. Thus, the rational use of natural resources and appropriate management of the building stock will contribute to saving scarce resources reducing energy consumption and improving environmental quality.

3.2 Objectives of sustainable buildings

- Social progress while recognizing the needs of everyone.
- Maintenance of high and stable levels of economic growth and employment
- Effective protection of the environment
- Prudent use of natural resources

3.3 Green Home

Green home is a type of house that is designed to be environmentally friendly and sustainable, focusing on the efficient use of “energy, water, and building materials.” An eco friendly house is a house that has been built with green building materials and equipped with systems that minimize harmful impacts on the environment

3.4 Sustainable Design

Sustainable design is the thoughtful integration of architecture with electrical, mechanical, and structural engineering. In addition to concerns for the traditional aesthetics of massing, proportion, scale, texture, shadow, and light, the facility design team needs to be concerned with the long term costs- environmental, economic and human.

3.5 Skill Development

Skill development means: all the efforts that allow somebody to learn to do something better than before, or do something new that the person has not done before, and which results in concrete change in their livelihoods.

3.6 Operational Definitions

Skilled Workers- A skilled worker is any worker who has some special skill, knowledge, or (usually acquired) ability in their work. A skilled worker may have attended a college, university or technical school. Or, a skilled worker may have learned their skills on the job.

Unskilled worker- a worker without any formal training like supervisor, carpenter, mason, electrician, plumber, mazdoor, etc

Skill Development Initiative Schemes

The vocational training system under Ministry of Labour and Employment is one of the most comprehensive systems in the country. There are two aspects of this magnificent scheme-

- To provide vocational training to people through different MES (Modular Employable Skills) courses to hone their skills
- To register institutions as VTP (Vocational Training Provider) for giving training.

3.7 Salient Features of MES Scheme

The time period for training is not counted by the number of days; instead the system is based on the number of hours to ensure flexibility in training.

The courses are for short duration (90 hours to 180 hours) so that the trainee is able to reap the advantages of the training at the earliest. For daily 2 hours training one can be trained in just 20 days.

The duration of the module is less, thus, enables a person to carry out his regular work/ profession concurrent to the training.

The training schedule is so flexible that a person can attend the class part time, full time or on weekends.

The place of the training could be on site or offsite.

4. Conclusion

The construction industry is the second largest employer in India. The construction industry is continually looking for skilled resources, skilled talent across all levels starting from masons, plumbers, electricians etc. to architects, site managers, etc.

Shortage of skilled labour hinders the progress of work there by delay in meeting deadlines i.e. timely output. There is a vast difference between the business need and the skill set possessed by the workers in the industry today. Most of the gaps in the skill sets are in areas of core knowledge and skill required to undertake relevant job role as a part of construction project. The biggest challenge faced by industry today is that most talent available for key construction activities like masonry, carpentry, brick work etc. is unskilled or has crude skills with limited job relevant knowledge.

To reduce this skill gap proper schemes in collaboration with industry needs to be worked out so that the construction industry which is the largest employer of worker force is able to provide good wages for skills of workers and in turn able to construct sustainable buildings for the future generations.

Government should enforce proper skill initiative schemes in rural areas as to provide meaningful employment through right skill sets.

This will also ensure that the employment opportunities will grow in rural areas as construction activities are fast growing in tier 3 and tier 4 cities.

Gujarat govt has already started a training scheme with Gujarat Mahila Housing SEWA Trust (MHT); a sister organization of SEWA, a housing environment and infrastructure service organization initiated a construction women workers skill up gradation programme in 1999 based on the demand from over 20,000 women construction workers organized by SEWA.

STEP academy is also training workers by providing them with right skill sets.

Also the need of the hour is the proper certification agencies at state levels which after assessing their skills can provide certificates so that they can be treated at par with the skilled labours.

Sustainable design can only happen if the worker who is constructing the building is aware about sustainable materials and also the ways to reduce the wastage of materials. Awareness on sustainability has to start from training the worker who gives shape to the building.

