

Importance of skills development in the energy sector

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Energy is crucial for the necessary transition towards a more equitable and sustainable world. Enhancing access to the green and affordable energy services that are referred to as prerequisites for securing a comfortable and healthy livelihood has been duly acknowledged in the UN's 17 Sustainable Development Goals (SDGs) declaration. Thus, ensuring sustained supplies of energy in various forms is central to the socioeconomic development of all underdeveloped countries, like Bangladesh, in particular. However, energy crisis has been one of the major prolonged problems in Bangladesh since its independence. The crisis is becoming

more acute as the difference between demand and production increases with time. Moreover, energy security as well as economic stability in Bangladesh is threatened due to spiraling population growth, scarcity of fossil fuel resources, high frequency of climatic events and decision-making processes that often lack transparency. In addition to these, lack of skilled energy personnel operating in the energy sector is one of the most important factors attributing to this energy insecurity. Energy security is indeed a dynamic concept; availability of energy of various types would increase over time with reference to the pace, pattern and directions of development that the country is embarked upon. A developing country



also accounted for difficulties in securing the right mix of technical and commercial skills within the energy sector.

Although the indigenous energy reserves are declining, it is believed that Bangladesh still has enormous quantity energy reserves that are yet to be unearthed mainly due to lack of expertise in making new discoveries and inability to execute exploration of existing ones. For instance, different research reveals that, it is expected that at the current usage rate and provided no new reserves are discovered, the natural gas reserve in Bangladesh will be exhausted by 2031. Thus skills development to create technologically adept manpower aimed at operating in the energy sector is extremely important. Similarly, in spite of having vast amount of energy reserve in the form of coal, the promising Phulbari coal project namely had to be called off depriving the nation from potential electricity generation. The project, as reported by GCM, a London-based resource exploration and development company, was set to make use of 572 million metric tonnes of superior quality coal to add about 4000 MW of electricity in the national grid. Furthermore, the project could have potentially contributed to an amount equal to about one percent of the GDP and could also have generated as many as 17,000 jobs. However, inadequate

Later, disruptive changes in skilled labour demand can come about following rapid additions to installation capacities. It is pretty obvious that a surge in installation capacity would definitely cause a sudden increment in demand for skilled labour. However, it should be noted that to develop a pool of skilled labour with STEM skills and engineering and technical expertise would require a considerable amount of time and cannot be provided overnight. Thus, a certain time has to be allowed in order for the policies, aimed at meeting new energy demand, to be executed efficiently.

A major barrier constraining skills development in Bangladesh is lack of interest and incentives to invest in vocational training programmes. Employers often report that it is difficult to attract new entrants to work in the energy sector since the benefits from engagement in this sector seems to be less lucrative than a potential job in some other sector. This is further aggravated by the fact that investment in energy sector is a neglected phenomenon in the context of Bangladesh because of lack of cost reflecting pricing. The state-owned power utilities face losses at times which also provide signals limiting investment in the energy sector. Although work is being undertaken to reverse this scenario, with the help of some highly innovative approaches, very nominal progress has been made with regard to skills enhancement.

It is assumed energy diversification is one of the utmost imperative tools to counter energy insufficiency. More appropriately, a transition from use of traditional fossil fuels to greater use of renewable energy is considered to be extremely important in increasing energy supplies. However, lack of skills development tends to hamper this transition due to the fact that producing power using renewable sources is subject to modern technological application. A skilled labour force will drive implementation of energy projects across the sector through local value addition, manufacturing, assembling, project designing, operation and maintenance and vocational training. Empirical studies have concluded that renewable energy market penetration is capable of creating more than 6.5 million jobs.

The current government is deeply concerned in developing human resources and has, with authority, acknowledged the role of strategic leadership and skills development in achieving the SDGs. Mr Nasrul Hamid, MP, the Honorable State Minister for the Ministry of Power, Energy and Mineral Resources, expressed his belief that if private universities come up with new academic programmes or courses related to Master's in Energy Economics or Energy Engineering to reinstate energy expertise in Bangladesh, then the problem of skilled labour crisis in the energy sector could be effectively tackled. If programmes like these existed, the skills derived from it could even be used to make new energy reserve discoveries, and also, the reliance on foreign expertise could be lessened. Moreover, the government revenue that is allotted for providing energy subsidies can rather be reallocated and invested in skill development programmes making relatively better use of public funds. This reallocation is justified in the sense that energy-subsidisation triggers inefficient and overuse of energy which aggravates the energy deficit. Thus, it is a critical time to ponder on the ways to boost skill development strategies for energy sector employment in order to resolve the energy crisis in Bangladesh. The private sector should collaborate with the government in making it possible for greater socio-economic development of the country.

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consumes a very low amount of energy per capita, given its low level of socio-economic and technological development. It is, therefore, essential to take effective steps ensuring necessary energy supplies and their proper distribution to all uses and users throughout the country in order to support steady socio-economic development in Bangladesh.

Lack of technical expertise is definitely a factor limiting energy generation in Bangladesh. Despite having the naturally endowed reserves, such technical incompetence has resulted in those resources remaining unutilised. Bangladesh is a country with substantial natural gas reserves which provide more than two-thirds of the nation's commercial fossil fuel supply. Even though Bangladesh has these natural gas reserves and recently discovered coal resources, efficient use of these resources is limited due to lack of exploitation and distribution facilities. Moreover, prospects in exploration of new reserves are also scrutinised to a great extent. Thus, poor skills of energy personnel can be attributed to such failures in generating economies from potential energy reserves.

The per capita production of commercial energy in the country has increased since 2010; however, it still remains one of the lowest in the world. Bangladesh will most likely be required to triple that amount of current energy generation to achieve its target of becoming a middle income country by 2021. Along with cutting off wastage of energy in household and industrial sectors, recruitment of skilled labour in the energy sector to restore the reserves and also make new discoveries is integral when it comes to attainment of development goals. On the other hand, Bangladesh has also been lagging behind in capitalising on its great deal of human resource due to lack of quality education and training, resulting in a limited pool of skilled workers in the energy sector. For some years now, the energy industry has registered slow progress in the number of new recruits entering the sector, with proficient Science, Technology, Engineering and Mathematics (STEM) skills. As a matter of fact, Bangladesh traditionally had to rely on foreign expertise to handle its energy sector issues and at present the technical inefficiency along with lack of skilled and trained manpower seem to have aggravated even further. Sometimes, the import of expertise becomes so expensive that it goes beyond the affordability range of the government creating a fiscal burden. Moreover, these have

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local technical expertise and absence of good governance led to termination of this project. Moreover, the government had to hire technical expertise from India which was also against the public sentiment of local people. Had Bangladesh managed to ensure sufficient supply of skilled labour, such manpower import would not have to be considered.

Employment opportunities within the energy sector can portray a significant impact on economic development in countries with high levels of unemployment and underemployment. In such countries generating employment opportunities is a major policy priority to which Bangladesh is no exception. It has been widely acknowledged in different energy literature that developing the energy capacity via boosting investment in the energy sector can make a significant contribution to job creation in the economy. Although the demand in Bangladesh is very high, inadequate supply of skilled labour seems to be a prolonged concern. In particular, the problems linked to low skilled labour supply in energy sector, at country level, appear to occur mainly where there are disorderly changes in energy demand. Initially, a disruptive change in demand for skilled labour often comes about where activities within the energy sector take off quickly.

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