A comparative study of Electricity Situation in Bangladesh, India, Malaysia and Pakistan

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ABSTRACT
Availability of energy resources and effective utilization leads to the development of any country. The developed nations are much concerned of meeting future exponential demand and prepared planned accordingly. History shows that the balance in demand and supply is necessary to maintain the country economic growth. However developing countries are usually not able to complete the energy plan due to country insides politics, laws and order situation, regional influence and other financial constraints. This paper presents a comparative study of energy situation in Bangladesh, India, Malaysia and Pakistan. This paper will further shows that countries like Malaysia has shown tremendous economic growth due to effective implementation of energy plan. The paper will also proposed some recommendations to meet the future energy demand

Keywords: Pakistan, India, Bangladesh, Malaysia, Electricity Situation.

1. INTRODUCTION
Electricity is one of the most important commodities in our daily life. Non-availability of electricity disturbs the human life as well as reduces the industrial production. The primary benefits from access to electricity include improved education, human health, communication and entertainment, comfort, protection, convenience, and productivity [1].

Non-availability of electricity also affects the business operating from houses. Approximately 20% to 30% of people in the developing world operate a business from their home, and the use of electricity for electric lighting and mechanical devices can significantly enhance the productivity of home businesses or microenterprises. The Philippines study indicates that with electricity, small businesses typically operate two more hours per day compared to businesses without electricity.

The main objective of the restructured electricity supply industry is to provide uninterrupted high quality electric energy supply with enhanced reliability in a cost effective manner. Distributed generation (DG) plays an important role in restructuring the process of electricity supply industries. Previously, it is only the conventional fossil fuel and nuclear energy that meet most of the world’s commercial electric power requirements. With the integration of alternative sources of energy, the utilities are found to be operating in a reliable and efficient manner by decreasing the damage toward the environment. On the other hand, growing industrialization will result in increased carbon emissions. There is, therefore, an urgent need to address climate change as a corollary to economic growth [2].

The provision of safe and reliable energy is essential for the development of a modern economy and has been the prime goal of domestic energy policy. The deployment of renewable energy systems also help in solving the electricity supply problems but would also assist in achieving environmental policy goals by cutting net greenhouse gas emissions and moving communities closer to sustainable development. The utilization of these alternatives also offers an interesting laboratory to test the theoretical framework of ecological modernisation that underpins environmental policies. Despite their many benefits, the uptake of renewable energy systems in developing countries often remains curiously low [3].

During 18th and 19th centuries, the Great Britain established colonies in different parts of the world and ruled in their countries till their independence. Bangladesh, India, Malaysia and Pakistan are also among these countries which have already taken their independence either directly or indirectly. Table 1 summarizes the statistical details of Bangladesh, India, Malaysia and Pakistan.

This paper will present the comparison of energy statistics among these countries. The process of restructuring, supply-demand electricity gap and the possible recommendations to improve the current energy deficit will also be presented in this paper.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Area (sq km)</th>
<th>Year of Independence</th>
<th>Population (2011)</th>
<th>GDP 2010 (billion $)</th>
<th>GDP per capita (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>143,998 / (65)</td>
<td>16 December 1971 (from West Pakistan)</td>
<td>150 million (11.20%)</td>
<td>81.47</td>
<td>$2,000 (709)</td>
</tr>
<tr>
<td>India</td>
<td>3,287,263 / (7)</td>
<td>15 August 1947 (from the UK)</td>
<td>1240 million (1.37%)</td>
<td>1,246.73</td>
<td>$3,900 (164)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>329,847 / (67)</td>
<td>31 August 1957 (from the UK)</td>
<td>28.8 million (1.00%)</td>
<td>171.82</td>
<td>$36,000 (74)</td>
</tr>
<tr>
<td>Pakistan</td>
<td>796,095 / (36)</td>
<td>14 August 1947 (from British India)</td>
<td>177 million (1.80%)</td>
<td>134.80</td>
<td>$2,900 (752)</td>
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