

7 CONCLUSION

Bangladesh is in an electric energy crisis for a long time. The conversion of biomass into electric power seems to be inevitable in the electrification and industrialization of the country, especially in rural and remote areas. If appropriate guidance and infrastructural support are available, the long-term contribution of biomass as a sustainable energy source to electricity production can be substantial. In this study, data and graphics present the current biomass energy scenario in Bangladesh. Several agricultural residues, municipal solid waste, human and animal waste have been identified for generating electricity. The total recoverable amount of biomass represents a significant amount of renewable energy resources. In 2019, it was estimated that the total power generation from available biomass resources was 126 TWh to 353 TWh. This study also presents the various technological options for biomass power conversion and possible power generation cost for each technology. It is found that the cost per unit of kilowatt-hour electricity generation from biomass power plants can range between USD 3.1 cents to 16.9 cents depending on power plant's type and biomass feedstock. The main focus of this study is to evaluate the availability of sufficient biomass for electricity generation, examine the feasible technologies and estimate the per unit electricity generation cost for each technology. In the end, the study concludes the social and economic impacts of biomass power generation.