The Dynamics of Good Governance in Promoting Energy Security: The Case of Bangladesh

Sakib B. Amin[1], Tauhid Irteza Ali[2], Umme Marzana[3]

Abstract: In the modern era, energy and its sustainability have emerged as one of the most important economic issues worldwide. It is widely believed that no country has managed to embrace development without ensuring a sustainable energy supply that could be accessed by a large portion of the population. Thus, this concept of energy sufficiency is of greater importance for the underdeveloped countries those, historically, had not been able to match their local energy demand. Apart from the inefficiencies and resource constraints associated with the energy sector, lack of good governance within an economy is believed to be a critical issue in aggravating energy crisis in those countries. However, following strategic impotence, political unwillingness and inefficient governance of the energy sector, the underdeveloped countries have failed to mitigate the energy deficits which in turn have hampered the development prospects in those countries. This paper highlights the potential roles good governance can play to promote energy security considering the case of Bangladesh, a developing country that is leaving no stones unturned in becoming a middle-income country by 2021. Besides, the role of good governance in complementing fuel diversification as a tool for ensuring energy security has also been put forward. Thus, the government of Bangladesh should reinstate good governance within the economy creating a favourable environment for investment in the energy sector which would enhance competition and mitigate inefficiencies in energy generation, transmission, and distribution.

Keywords: good governance, energy security

[1] School of Business and Economics, North South University, Bangladesh, Address: Dacca 1229, Bangladesh, Corresponding author: sakib.amin@northsouth.edu.
[2] School of Business and Economics, North South University, Bangladesh, Address: Dacca 1229, Bangladesh, E-mail: tauhidirteza92@gmail.com.
[3] School of Business and Economics, North South University, Bangladesh, Address: Dacca 1229, Bangladesh, E-mail: marzana19@gmail.com.

1. Introduction

Energy crisis is considered as one of the major hurdles that most of the developing and emerging countries are facing recently. The urgency to formulate a strong energy infrastructure is extremely crucial, more so for countries at the lower end of the development spectrum, to ensure prosperity in a country. Supply of secure and clean modern energy is a prerequisite for steady and continuous development for all countries, and Bangladesh is no exception. Energy's importance in the economy has been undoubtedly proven time and again; however there has been debate regarding whether higher energy supply promotes economic growth and development, resulting in increased supply and consumption of energy. It is deemed that the benefits of energy are not only limited to economic activities and for aiding in production, rather higher access to uninterrupted energy results in elevating the living conditions and social status of a country's citizens.

Bangladesh, like most lowly developed countries, faces a three-dimensional energy challenge of keeping Greenhouse Gases (GHG) emissions at a minimal while providing low-cost stable energy access to its people. A continuous supply of electricity ensures improved healthcare, better communications infrastructures and other socio-economic aspects of development. All of these can only be materialized under the supervision and with the involvement of public entities practicing good governance. Good governance is said to be "the best set of all laws, regulations, processes, and practices that affect the functioning of a regulatory framework and the market'' (Hancher et al., 2004, p.340). Good market governance that combines properly working market forces and strong legislative framework is essential for devising and realizing effective energy policies.

The government of Bangladesh has outlined the urgency to improve its state of governance, specifically to combat corruption, in its 6th Five Year Plan and this urgency has been further expressed as pressing in the 7th Five Year Plan. Notable progress reflecting the government's commitment to improve governance has been witnessed till the 6th Five Year Plan with regards to the introduction of e-governance, the Right to Information (RTI), medium-term budgetary framework (MTBF) and elected local governments. Even with all these signs of progress, there are areas still facing challenges especially affecting the energy sector, in turn, slowing down Bangladesh's development (Lged.gov.bd, 2017, p. 23).

This paper has tried to shed some light on the achievements and pitfalls regarding governance in Bangladesh with regards to the energy situation. Though ample

literatures are present that connect governance and energy sector development throughout the world very few have touched upon this nexus for the case of Bangladesh and even fewer have taken into account the most recent situation. This paper hopes to lessen some of this dearth.

The rest of the paper has been designed as follows. Chapter 2 discusses the origins and nature of energy crisis and security while chapter 3 looks into the fundamental concepts of good governance, market and energy sector. Chapter 4 sheds light on the major issues of governance in Bangladesh's energy sector. Some lessons of experience concerning market governance and energy security by focusing on a case study on Japan has been included in Chapter 5 while ending with conclusions and recommendations towards better governance of the energy sector of Bangladesh as Chapter 6.

2. Origins and Nature of Energy Crisis and Energy Security

2.1. Energy Security and Global Trends

The concept of energy security encompasses on providing an adequate and reliable source of energy to the masses at reasonable prices. The policy focus for which should be in limiting the vulnerability to disruption and ensuring the provision of adequate supply for future increased demands. But the problem of ensuring energy security is not just confined to the dimensions of supply and demand, rather various emerging issues like environmental concerns, cross-border energy interdependence and vulnerability from digital threats has also been added to the risks of global energy security. To face these challenges, a synchronized solution to the contemporary energy problems are needed, negating the feasibility of the concept of energy independence of any one particular country.

The ability of the countries, to understand the importance of interdependence, as well as their willingness to work together to overcome these mutual challenges, will be fundamental to the promotion of global energy security. Besides, rising environmental concerns over Greenhouse Gas (GHG) emissions, resulting from heavy dependence on fossil fuel burning to produce energy has shifted the momentum of energy production in a new direction. The political backing in this context has also solidified over the years. Thus, the changing landscape of global geopolitics along with a general policy shift to renewable energy sources has significantly diversified the fuel mix of many countries. In fact, de-carbonization of

the fuel-mix of countries is the key feature of energy transition which is observed worldwide.

Low prices of crude oil along with the rapid improvement in the competitiveness of renewable energy is providing an indication that for the near future there will be a rapid increase in the usage of renewable, together with nuclear and hydro energy. It is also expected that natural gas will grow faster than oil or coal, due to the growth of Liquefied Natural Gas (LNG), which has eased the access of gas across the globe. It is the increased diversity of gas supplies associated with a rapid expansion of LNG, which has augmented the support for gas consumption. The main center of demand growth for gas is in China, Europe, Middle East and the US. In China, the growth of gas demand is caused by its increasing share in industry and power. The growth in gas consumption has already risen so much that it has outstripped the domestic gas production, such that the share of imported gas in national consumption has increased significantly. On the other hand, in Europe, domestic production would be declining sharply as existing gas fields mature and are not replaced. Both these contexts underlie the notion of increasing dependence on imported gas, the most of which have to be met by LNG.

If the overall global trend is observed, it would be seen that there is an increase in production of oil, coal and natural gas. However, the pace of which oil demand has been growing over the years has slowed down. It is to be noted that the increasing penetration of electric hybrid cars in the markets will play a major role in curving up the future of oil demand. The main reason behind this is that most of the demand for world's liquid fuel comes from the transport sector. It accounts for almost two-third of the growth in global oil demand. But, in recent times the stimulus from transport demand has been fading gradually for an increasing efficiency of fuels, and for an increasing penetration of non-oil fuels. Considering the supply side, we could observe that a growing abundance of world oil resources has initiated a shift in the pattern of global oil supplies towards holders of large-scale, low-cost resources. As a result, the share of global oil supply accounted by the Middle-East, Russia and US will significantly increase over the coming years.

The growth in global coal production has fallen sharply, mainly driven by the changing energy needs of China. As China's economic model shifts to a more stable pattern of growth, the major policy shift in the energy forefront is to reduce dependence on coal to a more cleaner, low-carbon fuels. The coal consumption of China is expected to plateau over the next years. But despite this, China in the

upcoming years will be the largest market for coal, accounting for nearly half of the global coal consumption. On the other hand, the major growth market for coal would be in India, the significant portion of which has to be feed to its power sector. However, worldwide renewables can be projected to be the fastest-growing fuel source for the power sector. The penetration of renewables is expected to be the highest in the European Union (EU) countries, with their share almost doubling in the power sector. Though, the largest source of growth for renewables would be in China in the coming years, to meet their increasing energy needs and to facilitate in shifting to a cleaner fuel-source for their economy. This strong growth in renewables is expected to be a likely scenario worldwide, which is underpinned by the fact of increasing competitiveness of both solar and wind power. The cost of solar power is expected to fall, though the pace of that fall would decrease over the years. On the other hand, costs of wind power are also expected to fall, indicating the fact that there are further scopes of improvement for increasing the efficiency of wind turbines in harvesting wind power. Taking into account system stability and system integration costs, it can be analyzed that wind power will remain more competitive than solar energy for most of the developed and emerging economies.

In the context of providing energy security, it can be noted that the portion of global population having undisrupted electrical connectivity is still in the minority, with many still relying on traditional sources to meet their energy needs. In future, on the one hand an increase in energy demand can be observed, and on the other, high reliance on renewable sources to curb energy needs of the populace living in remote and inaccessible places will ensure higher degree of energy security to the increasing global population. Proper policy measures in this regard to promote renewables, is expected to encompass the environmental concerns of energy security.

3. Good Governance, Market and Energy Sector

Governance broadly refers to local, national, international or corporate involvement or processes to ensure the proper formulation of policies and management of resources. It is done with the inclusion of an economy's institutional framework to further ascertain the key social, economic, technological, environmental and political end goals of the country or a community. Good governance, on the other hand, refers to the best possible means of adopting and realizing the above-mentioned objectives and goals to provide the best possible

outcomes. Good governance reflects the aptitude of exercising power and making good decisions involving all aspects of a country. A plethora of literature is available that underline the common basic principles of what constitutes 'good governance'. These are generally referred to by most countries as guides. But it is important to note that there is not a one dimensional universal guideline present that includes all attributes of good governance and can be followed by every country, as they differ in various aspects.

Existing literatures have highlighted the following principles of good governance

1. Clearly defined roles, responsibilities, and goals for every level of officials focusing on their strengths with the provision of necessary tools such as logistical support and training to carry out these roles and achieve these goals.
2. Transparency among all actors of the economy to mitigate corruption, nepotism, and favoritism. It is possible through the publication of relevant information to the public, investors and other associated stakeholders.
3. Supervision of the market with a required level of autonomy to the private sector and consumers.
4. Having a foolproof contingency plan which requires adequate anticipating power to avoid 'damage control' situations when disasters strike. Inclusion of unambiguous timetables, clear definitions of standards to be maintained and all other rules and regulations is necessary in this regard.
5. Consistency in decision making and operational activities so that words can be backed up by actions.
6. Accountability to the society and all stakeholders to uphold and protect their interests. Accountability is considered a key aspect of good governance. For example, regulatory authorities must be held accountable through the legislative system to the lawmakers, to the political control mechanisms, to the people of the country and other interested bodies like the private sector by elucidating and publishing policies.
7. In order for accountability and transparency to work it is utmost necessary to ensure the involvement of all non-governmental parties, like consumers and private firms, to express their opinions and demands on proposed

measures and decisions. Proper co-ordination among policymakers, implementers, and stakeholders is a must for its materialization.

8. Developing sustainably to avoid running out of the main resources is of utmost importance as not doing so may result in curbing the country's development and this should be complemented by exercising sufficient efforts in discovering alternative resources.

Governments throughout the world refer to six key indicators of good governance to assess their state and to compare with the rest of the world. These are: (1) Control of Corruption, (2) Government Effectiveness, (3) Rule of Law, (4) Violence and Accountability, (5) Regulatory Quality, (6) Political Stability and Absence of Violence (Lged.gov.bd, 2017). Even though in today's world of globalization almost every country is moving towards the free market system it is important to ensure the presence of strong central authority practicing good governance for efficient allocation of resources to guarantee a country's prosperity. The governance of market requires an ample form of governance system to govern the trade of general goods and services, and this applies to every type of market. Globalization has resulted in the privatization of provision of several public goods so that consumers can reap the benefits of lower prices due to competition throughout the world, and the energy market is no exception in this case (Chang & Koh, 2012, p. 18).

This has been the case for Bangladesh to some extent as well. Though energy is being primarily supplied by government entities, the inclusion of the private sector in forms of IPPs, quick rentals and energy import have been witnessed increasingly in the last two decades. But this does not mean that these private organizations are not answerable to regulatory and government authorities. This is primarily because leaving the reigns of the market completely in the hands of the private sector as means of achieving the free market system often results in undesired outcomes which ultimately affect the end users, the average citizens. But this does not imply complete governmental autocracy over the market with no room to breathe. To summarize, solely relying on only governance or only markets will not bring about a positive impact on cutting down the energy crisis, especially in the developing world. It is rather necessary to strike a balance between the two such that the market forces can bring about the best results with the government's efforts to rectify any externalities present.

Bangladesh's economy is mainly characterized by a constricted political playing field dominated by two major political parties with any one of these rulings the country and formulating the system of governance for the majority of the time since the country's independence. Their mutual resentment towards each other's ways of operating the country has always led its people to suffer in the end (Federal Ministry for Economic Cooperation and Development, 2017). This political imbalance is one of the major reasons, if not the only one, that has led to Bangladesh's constantly low rating in the main standards of social and economic measures throughout, like the corruption perception index. The overly complicated regulatory and legal system entangled by corruption has made doing business in the country extremely difficult and this flawed system of government activities is considered to be the second major reason, after the shortage of electricity supply, for slow growth.

Good governance is vital to ensure uninterrupted, reliable, cheap and clean supply of energy to the country, which is a matter concern for Bangladesh. The country has been suffering from frequent power cuts, transmission losses and wide gaps between the demand for and supply of electricity due to being highly subsidized by the country for over three decades, now resulting in excess demand compared to supply. Despite remarkable strides through introduction of e-governance and formulation of numerous policy reforms, Bangladesh still has not been able to completely uproot energy crisis. Corrupt practices, government dominance over the market, lack of sustainable long-term clean energy development plans, and unfit investment environment are a few reasons to be blamed for Bangladesh's energy state.

Good governance is crucial for a bounty of reasons. In a more general sense, good governance instills a sense of confidence in people, allows basic public services to reach the needy in a more efficient way, and results in not just better but ethical decisions concerning the entire country. In case of Bangladesh's energy scenario, good governance is imperative for constant supply of clean energy to mitigate pollution and to conserve the country's natural resources. It is also vital in diversification of the fuel base by performing more explorations to discover the available abundant sources of energies, like natural gas and coal. Policies reflecting good governance can help to identify the more stable sources of alternative energy so that Bangladesh can lessen its dependency on the depleting natural gas for electricity production. Good governance will help connect the 54 percent of the rural population to the national grid otherwise living in extreme conditions without

lighting and heating or depending on traditional energy means like kerosene and fuel wood for these basic necessities; thus this is paramount for development in Bangladesh.

The importance of improving governance has been a major goal mentioned in the Five Year Plans of the country. The 6th Five Year Plan focused on four chief cornerstones as means of achieving good governance, namely making the civil service stronger, encouraging decentralization of local governments, strengthening public-private partnerships and reforming planning and budgetary procedures (Lged.gov.bd, 2017, p. 164). The 7th Five Year Plan on the other had has mentioned to focus more on contemporary issues and has considered local government, judiciary, financial sector and public administration capacity as major areas for intervention. Bangladesh has been able to score above average compared to low-income countries in the first four indicators of good governance whereas falls behind in the last two (Lged.gov.bd, 2017, p.165).

Table 1 below summarizes the noteworthy progress in various aspects from the 6th Five Year Plan and areas that need improvement with regards to Bangladesh's governance, as per the 7th Five Year Plan,

Table 1. Progress and Challenges for Good Governance

Witnessed Progress	Challenges that Require More Attention
Increased Development in Public Administration Capacity	Judicial Effectiveness
Reforming Public Services and Combating Corruption	Public Administration Capacity
Improvements in Project Implementation Capacity and Sectoral Governance 1. Planning and Budgeting 2. Planning and Budgeting 3. Results-based Monitoring and Evaluation	Economic Governance
Devolution to local Governments	
Promotion of E-Governance	
Judicial Reforms	
Higher Effectiveness of Parliamentary Process	
Strengthening of the Election Commission	
Increased Partnerships with NGOs	
Annual Performance Agreement (APA)	

It is the state of governance that reflects whether the citizens of a country will invest their efforts and talents inefficient production, innovation and job creation or corrupt practices involving rent seeking and lobbying from vested interest groups. Fair, transparent and responsible internal governance complemented by quick responsiveness will assist every facet of the country, not just the energy sector, to realize their full potential.

4. Major Issues of Governance in Bangladesh's Energy Sector

4.1. The Energy Scenario in Bangladesh

The government of Bangladesh has deployed utmost importance to its Energy and Power sectors for its efforts in achieving the 'VISION2041'goal and presenting itself as a middle-income country. It is a known fact that secure energy supply is the prerequisite for sustainable development for any country, more so for a developing country like Bangladesh. The country has witnessed a definite increase in its energy use since its independence. Energy use per capita (kg equivalent of oil) has risen at an approximate of 3 percent on average between 1985 and 2014, this growth is still considerably low for global standards and compared to Bangladesh's developing neighbors.

Bangladesh meets its energy needs through commercial and non-commercial sources. The former primarily includes natural gas, oil, hydroelectricity, coal, solar power and power import whereas the latter involves wood fuel, animal waste, and crop residues (Amin, 2015, p. 83). According to Sustainable and Renewable Energy Development Authority (SREDA), natural gas constitutes the largest share in the energy mix while was solely responsible for almost 62 percent of the country's electricity generation in 2015.

The country's increasing economic activities in the hope of achieving the middle-income status are creating increasing pressures on its abundant but finite reserves of natural gas, thus pushing it towards depletion and causing concerns regarding the energy security of the country. The natural gas shortages and a shortsighted energy structure are the major causes of frequent power cuts in the country. High amounts of government subsidies targeted to cut down gas prices for its sheer importance has caused the government to incur major losses while sending wrong price signals in the market eventually causing a distortion in its allocation and usage. According to the Ministry of Power, Energy and Mineral Resources natural

gas reserves are only expected to last till 2031 given the current rate of extraction (Amin, 2015, p. 85).

The above issues have compelled the government to reduce its reliance on natural gas and shift its focus on coal by formulating strategies in the hope of producing almost 50 percent of Bangladesh's total electricity from coal by the year 2030. At the same time, though technological and financial constraints make it difficult, Bangladesh is investing in nuclear power as well and plans to set up the Rooppur Power Plant in Rooppur, Pabna, as the first ever nuclear power plant in the country by 2018. The share of oil as a means of electricity production has also experienced an increasing trend.

Renewable energy is considered as one of the main drivers of pro-poor growth, mitigation of poverty and to combat environmental degradation from an energy perspective. A smooth supply of renewable energy ascertains secured energy conditions in the country as the reserves for non-renewable energy are finite. Rural Bangladesh's extreme dependency on biomass is a major cause of environmental degradation while energy import creates matters of concerns as well, and both of those could be remedied by investing more in the renewable energy sector. The policymakers have realized the sense of urgency in donating more time and resources to develop this particular sector.

It is considered that globally Bangladesh possesses one of the largest and most triumphant bases for solar home systems (SHS), thus indicating vast potential in the renewable energy sector, major reason being the abundance of sunlight available in this equatorial country. The National Renewable Energy Policy of 2008 outlines the government's hopes of producing at least 10 percent of the total power generated using renewable sources by the year 2020, and presently has 15 MW of solar energy capacity and 1.9 MW of wind power, and renewable energy has a meager share of 1 percent in the total energy share. The aspirations of achieving sustainable and faster development countrywide have called for the Development of Renewable Energy as one of the principal tactics to be adopted in order for the Fuel Diversification Program. Potential sources of other renewable resources are still being explored, and biomass gasification is considered to be of great prospective due the copious availability of the sources in the country.

Formed in 2014, SREDA takes care of the country's consolidation of policy programs and organization of the development of renewable energy projects while the state-owned entity Bangladesh Power Development Board (BPDB) is the sole

buyer and major generator and distributor, along with its subsidiaries, of all power (Bpdb.gov.bd, 2017). Various Independent Power Producers (IPP) are also responsible for electricity generation in Bangladesh.

The above information reflects huge success from the government's side in terms of development of the energy sector. But even after this, one-third of the population and a quarter of the households do not have proper electric connectivity. The access to electricity in the poor rural areas is also notably lower than that in the urban areas. Unfortunately, these rural homes and the urban poor are still dependent on traditional and unstable means of lighting and heating which are not just unsafe but require labor intensive activities to avail them.

The ongoing load shedding resulting from vast demand and supply gaps since the country's independence has been a major hurdle for its economic activities. The shortage of the primary source of electricity production, natural gas supply, isn't the only factor to be blamed, rather obsolete generation units used by the state producers, low capacity and erratic and inefficient operations have a significant role to play. These problems can be directly linked to the country's poor governance which has given heed to extreme dependence on imported fuel to meet transportation needs, a shortage of local energy sources and an acutely volatile and weak energy infrastructure. Energy security as we know it is a necessary condition for not just a country to sustainably grow and develop but to uplift its people's standards of living as well, and ensuring energy security is a need that is more indispensable for the developing world.

A clear sign of lack of noteworthy governance is that previous governments have not paid enough heed to several major issues which have intensified the energy crisis in Bangladesh (Amin, 2015, p. 119). Some of the outcomes considered to be resulted from poor governance has been mentioned below.

1. Poor performance from the state-owned energy producers and regulators.
2. Not being able to meet exponentially growing electricity demand coupled with a low number of power plants.
3. Lack of legal framework to encourage energy conserving practices.
4. Unnecessarily large amounts of subsidies provided to producers and consumers to lower the cost of production for the former and the market prices for the latter, therefore indicating the presence of an irrational tariff policy maintained to satisfy political agendas.

5. Lack of enough R & D efforts on clean, sustainable technology to ensure fuel diversification.
6. Short-sightedness in terms of energy development with a low level of policy research.
7. Dragging the energy market in the political scenario due to frequent changes is policymakers resulting in a lack of commitment and continuity in decision making.
8. Absence of proper co-ordination among the concerned ministries and widespread corruption in almost every level of public organizations.
9. Political fluctuations causing social and economic unrest, leaving an unfit investment environment in the energy market for domestic and foreign private investors.

4.2 Role of Good Governance in Fuel Diversification for future Energy Security

Even in the presence of abundant energy resources, it is not always possible to ensure energy security or sustainable development without the presence of good governance. As noted, good governance in ensuring energy security is to provide people with the access to diversified sources of energy at affordable rates. Heavy reliance on one source of energy for fulfilling economic needs has the potential of causing disruptions, eventually sending shockwaves across the economy. To this end, it is utmost necessary to diversify the fuel base of a country. It is to be noted that there is no perfect economically viable fuel source. For policymakers, there are always opportunity costs in making one source of fuel more accessible instead of the other. This issue becomes even more significant for an energy importing country like Bangladesh.

It is necessary to coordinate actions of different interrelated policy measures to ensure sustainable energy security. At the forefront, it is important to ensure availability of energy from domestic and imported sources, ensure its accessibility to different regions of the country, and to ensure its affordability to different categories of consumers. The first of these policy notions highlights the importance of fuel diversification, putting reliance on diversified sources on meeting the energy needs. Poor governance and not diversifying fuel base leading to energy crisis is best exemplified in Nigeria's context. Despite having huge energy

reserves, poor governance and lack of policy support have led the country to disarray in the past.

In Bangladesh's context, to enhance governance in ensuring energy security through fuel diversification, there are scopes for institutional reformation, enactment of new policies, resource assessment and capacity development for proper management. Governance highlights the issue of overall transparency in the energy sector. The government has to bring in more clarity in its decision-making process and has to consult with various stakeholders before implementing any of its policies. The policies which are undertaken have to reflect the popular public sentiment and have to be effective in meeting its goals. Previous several governments of Bangladesh shrouded its decisions regarding the energy sector in secrecy. This resulted in an increasing distrust of the people in consecutive governments. World history shows us that poor governance in the energy sector bears the risk of disrupting social harmony and can potentially rise as an issue of contention between the government and majority of the population.

The energy policy of Bangladesh always heavily relied on natural gas for power generation. Large subsidies had been provided regarding this to both the producers and consumers for years. This not only heavily affected the energy market but also pushed Bangladesh to concentrate solely on one form of energy, putting it vulnerable to market shocks. This scenario got highlighted by the ongoing energy crisis which Bangladesh had been facing for several years. But, initiatives by the recent government to shift away Bangladesh's sole dependence from natural gas to coal and oil for power generation should be applauded. Also, plans to incorporate LNGs to the existing energy market further will take Bangladesh for fuel diversification. A major policy shift can also be seen in providing access to people with renewable energy. All these measures will further diversify the fuel base for Bangladesh and enhance its energy security.

However, to ensure good governance for fuel diversification, the government should try to include all the dimensions of energy security in its policies. It is necessary to put more dependence on renewable fuel sources to curb GHG emissions. But, it is also necessary to bring transparency in establish tariffs and other decisions. Stakeholder meeting at all level will ensure that all the concerns are taken into account before going forward with any decision. All in all, there is still room for Bangladesh to improve its governance to provide energy security to its people. More efforts are needed in many of the fronts to ensure this.

5. Market Governance & Energy Security: A Case Study of Japan

To mitigate externalities, good market governance should balance the overall virtues of free market principles and government regulatory frameworks. It should contribute to increase business confidence and assist in producing necessary stability which is necessary for initiating long-term investments. Thus the interests of consumers would be better served with proper supply and a dynamic market. A case study of Japan is put forward here to understand the importance of market governance in ensuring energy security and take valuable lessons from it.

In Japan there was a public panic during the first oil crisis in 1973, which led the population to stockpile consumables, further driving up energy prices. A proper adjustment response could not be implemented by Japan at that time, mainly due to factional politics and compartmentalized policymaking structure, highlighted by the inconsistencies and incoherence in the policymaking process. To secure economic development, the government of Japan first established a Ministerial Council in 1975, followed by the enactment of the Basic Direction on General Energy Policy. This facilitated energy diversification and promoting energy conservation. Further, the government took a long-term policy in 1976 to provide energy projections by an openly accessible government and independent sources. This system of projections was very important in establishing a price signaling system, and also serving as a platform for the government to put attention to problematic areas and defend public resource allocation.

These initiatives by the government brought a different outcome during the second oil crisis in 1979. This time no public hysteria as caused and a price stability and trade account surplus returned to the Japanese market by 1980. When analyzed it was found that the two oil crises in 1970 hardly affected the Japanese economy. In fact, Japan was found to have a higher economic growth in 1980. This could have been possible due to the improved energy governance structure put forward by the Japanese government after the first oil crisis of 1973. During the second crisis, the government played a less interventionist role, but was more consistent in instilling preparedness and optimism among investors and consumers.

The diverse information provided by the forecast system helped the Japanese government in promoting, transparency and accountability. This can be an example of proper market governance which helped the Japanese economy to absorb the shock of second oil crisis in 1979 more effectively.

6. Conclusions and Policy Recommendations

The government of Bangladesh has undertaken several actions and policy reform schemes to rectify the problems in the way it governs the economy (DailySun, 2017). These actions were aimed to develop a strong system of governance. However, even after many remarkable results a lot more is yet to be done and achieved to put the country on the same level as other developed and progressing countries. This is especially crucial for the sustenance of the energy sector in today's day and age of extreme competition and technological advancement.

Bangladesh needs to assure the practice of better governance in order to attain energy security and overcome energy crisis. Good governance is required to help the country limit the vulnerabilities it is destined to face for dependence on energy imports and a single domestic energy resource, i.e. natural gas. It facilitates in having long term contingency plans, backed by alternative sources of energy to prevent the country from external and internal energy shocks. It also helps to provide sufficient supply of reasonably priced energy to satisfy the increasing demand, and to ascertain that higher supply and consumption of energy does not come at a cost of the environment.

Though policymakers have been able to and are working to dig deeper into areas of concern and improvement, we suggest some steps that could be taken to ensure good market governance in the energy sector,

1. Learning from the mistakes and triumphs of both similar developing and developed countries and through the trial and error process to come up with a strong energy infrastructure. This can be achieved by surveying past and present governance practices worldwide.
2. Conducting open dialogues sessions and workshops among the government, private sector, consumers, implementers and other stakeholders to get a better idea of each other's' perspectives and needs and to come up with better solutions to existing problems and future decisions (Myers et al., 2006, p. 2). Such sessions should be aired on national television, radio or streamed online to reach a larger section of the population. Such a step would guarantee improvements in transparency and accountability.
3. Relating to the above recommendation, the presence of hotlines, online and offline forums to express the stakeholders' expectations, opinions,

demands and criticisms would result in vast positive changes in the governance style making the government more aware and answerable to its people.

4. Carrying out countrywide campaigns to teach and promote efficient energy usage. This should be coupled with aggressive decentralization of the energy systems to help consumers make smart and environment conserving energy choices.
5. Reduction in reliance on the primary and depleting energy source, natural gas, is required for fuel diversification efforts. This can be done by resorting to a moderate import of LNG and petroleum via pipeline, increased exploration of gas and coal by national companies and IOCs, more R & D investments for wind energy in coastal regions, and taking advantages of solar power and biomass and biogas.
6. External sources can also play a significant role in helping Bangladesh achieve energy security through better governance. International monitoring agencies such as the United Nations, WTO, regional blocs such as SAARC, and other global regulatory bodies should keep stricter checks and balances to help the country maintain stable socio-political and economic conditions.
7. Making sure to materialize good governance in Bangladesh using the above-mentioned strategies along with others would help to boost up the attribute of the resilience of the otherwise weak Bangladeshi energy sector, and this will help the sector and the country to adapt to changes and face abrupt disasters quickly.

Our paper, "The Dynamics of Good Governance in Promoting Energy Security: The Case of Bangladesh", has tried to provide a snapshot of the current energy situation in the country and the role governance, more specifically good governance, has to play in shaping it. Through this paper we have tried to paint a comprehensive picture of Bangladesh's state of governance and its impacts on the energy sector. However, there is room for improvement due to certain limitations we faced.

Just like all papers ours also faced a few limitations that constrained the length of our work, one of them being the fact that energy security and governance are vast subjects to discuss and due to basic restrictions of time and access to data we have

not being able to touch on all aspects. At the same, the lack of pertinent and recent literature and data focusing on this particular linkage concerning Bangladesh was also an obstacle we faced which resulted for us to opt for a qualitative approach rather than an empirical one in this paper. Nonetheless, this paper opens up new doors to work in related topics in the research community, which should focus on the relationship between governance and socio-economic development, and on the relationship between good governance and foreign investment in Bangladesh. It puts importance on the fact that a case study approach is necessary to be taken, to compare the good governance and energy security association among the developing South Asian countries.

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