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Syed Mahbubur Rahman[1, 2, 3*], Mohammad Dulal Miah[4]
[1]Association for Socio-Economic Advancement of Bangladesh (ASEAB), Bharara, Pabna 6600, Bangladesh
[2]PROGGA: Knowledge for Progress, House 6, Main Road 3, Block A, Mirpur 11, Dhaka-1216, Bangladesh
[3]Facuty of Business Administration, American International University-Bangladesh (AIUB), House 83/B, Road 4, Kemal Ataturk Avenue, Banani, Dhaka 1213, Bangladesh
[*]**Corresponding author:** e-mail: rahman_s_m@yahoo.com
[4]College of Economics, Management, and Information Systems, University of Nizwa, Birkat al Mouz, P.O. Box 33, PC 616, Oman, email: dulal@unizwa.edu.om

INTENDED NATIONALLY DETERMINED CONTRIBUTIONS FROM THE MIDDLE EAST AND NORTH AFRICA

ABSTRACT. All Parties to the United Nations Framework Convention on Climate Change (UNFCCC) were requested to communicate intended nationally determined contributions (INDCs) in a clear, transparent and understandable way before the Conference of the Parties (known as COP21) held in Paris in 2015. The Contributions were supposed to be balanced and comprehensive to ensure sustainable development and expected to include finance, technology requires, technology transfer and capacity building aiming at mitigation and adaptation. This research focuses on investigating the INDCs prepared by countries from the Middle East and North Africa (MENA), one of the most water-scarce and dry regions in the world. Following a content analysis, this research has found that INDCs from the region have not been able to reflect the desired output. Submissions were also not timely and not sufficiently ahead of time. Many countries were not able to disclose the current status. INDCs can play a significant role by providing objective, timely, and reliable information, which is missing at present in the countries from MENA.

KEY WORDS: INDC, MENA, Climate change, UNFCCC.

INTRODUCTION

While bringing couple of thousands of delegates from across the globe, 'environmental mega conferences' [Seyfang, 2003] have been stipulating and instigating ideas as well as concrete plans and programs to address climate change both locally and globally.Through consensus the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) formulate strategies required to bring down global emission and thereby lessen the pace of global warming. Preparation of national adaptation programmes of action (NAPAs) and nationally appropriate mitigation actions (NAMAs)are such initiatives formulated during the Conference of the Parties (COP) in Marrakesh (i.e. COP7) and Doha (i.e. COP18), respectively. Later, during COP19 in Warsaw, based on the negotiations under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), Parties to the Convention were invited to prepare and submit intended nationally determined contributions (INDCs) in an attempt to *intensify domestic preparations*.

All Parties were requested to communicate INDCs in a clear, transparent and

understandable way before COP21held in Paris in the winter of 2015. More specifically, Parties were invited to submit INDC by the first quarter of 2015. However, only four countries – Switzerland, Latvia, Norway and the USA, out of 158 submissions before January 2016, were able to submit by the designated time. Thirty-five countries communicated their INDCs during the month of November and December of 2015 only. UNFCCC has developed a publicly available platform to store and disseminate INDCs.

The Contributions were supposed to be balanced and comprehensive to ensure sustainable development and were expected to include finance, technology requires, technology transfer and capacity building aiming at mitigation and adaptation actions. Developing countries should have prepared different sets of INDCs mentioning the level of financial requirement and technology involvement. To address mitigation both in long term and short term, INDC has to summarize the national mitigation contributions, its type, level of ambition and the relevant conditionality, if requires. Country has to outline current and future adaptation actions and the supports needed to implement adaptation and climate resilient development. NAMAs, NAPAs, the national adaptation plans (NAPs) and the previous national communications, if any, to the UNFCCC were suggested to be considered as the key data sources.

Forthe implementation plans of INDCs financial supports, provisions for capacity building and technology transfer need to be explained. Current and anticipated national spending on mitigation and adaptation, supports require for policies, sector strategies and projects as well as the needs of various types of environmentally sustainable technologies are expected to be elucidated in INDCs. For each activity, the time of support required, national budget available, if any, and the essential external funding have to be mentioned. As the country-level capacity varies, it is not realistic to expect that all Parties would be able to explicitly explain the actions, needs and the future plans. Hence, this research investigates INDCs prepared by the countries from the Middle East and North Africa (MENA) complying with the UNFCCC requirement. Even late, compared to many other countries, Morocco was the first among the MENA region to submit the document in June 2015 followed by Tunisia, Israel, Lebanon and Jordan in September 2015. Among the Gulf Cooperation Council (GCC) countries, Oman was the first to submit INDC in October 2015. Other nations from the region have submitted till December 2015.

The MENA region is one of the most water-scarce and dry regions in the world and particularly vulnerable to significant warming, longer and intense droughts and uncertain rainfall [Sowers and Weinthal, 2010; Benzie et al., 2012; World Bank, n.d.]. Countries in the region are expected to be impacted differently by diverse climate risks [Sowers and Weinthal, 2010]; for instance, sea-level rise would affect parts of Egypt, Tunisia and small Gulf States while change in precipitation may affect surface water flow in Turkey, Jordan and Morocco. Along with other reasons, due to its climate-sensitive agriculture and large share of inhabitants in the flood-prone urban coastal zones, the MENA region has developed indigenous technologies and institutional mechanisms to adapt with heat and water scarcity [World Bank, n.d.].

Climate Action Tracker (CAT), a coalition of four research organizations – Climate Analytics, Ecofys, New Climate Institute and Potsdam Institute for Climate Impact Research, has assessed 32 INDCs about emissions, effect of current policies on emissions and fair share of global effort to limit warming below two degree Centigrade. Among these only three are from MENA – Morocco, Saudi Arabia and the UAE. CAT has ranked INDCs of both Saudi Arabia and the UAE 'inadequate' while Morocco has been rated as 'sufficient. 'However, this research is planned to analyze the contents of selected INDCs entirely from

a qualitative point of view without making any ranking.

SELECTION OF COUNTRIES AND THE TEXT OF INDCS

This research has applied content analysis method. In this pursuit, it has collected 16 INDCs from the countries in MENA except Djibouti, Syria, and West Bank and Gaza, which did not submit their respective INDCs until the point of data collection. Among these 16 available INDCs, Iraq and Kuwait have submitted their reports in Arabic language, thus reducing the choice to 14 INDCs to compare on various aspects of national intended contributions towards climate change. In the first phase, the study has analyzed the content of the reports and grouped the countries into several categories (shown in Table 1). Owning to the subjective nature of reports, there is a chance of arbitrary grouping. To avoid this happening, experts' opinion has been sought for in case of any confusion arisen in grouping the words. Finally, this research has come up with eight separate classes of words. It is seen from Table 1 that in general, MENA countries are much concerned about the emitting sectors (the sources of emission for instance, transport, factory emission, heat and wind). The second most important factor that has attracted attention from these countries is how to adopt (for instance, rehabilitation, resilience and capacity building) with the damage that have already caused to the environment. The least priority area as shown by the list is the pollutants (the nature of polluters like waste and thermal pollutants). Also, financing requirement is not emphasized much which is a good indication that the region can cope by their own financial capacity with the environmental adversaries.

The descriptive statistics of word counts are provided in Table 2. It shows the average as well as minimum and maximum of each cluster of words. It can be observed that the source of emission has received extensive coverage from Jordan followed by Tunisia and Yemen. These three countries are also the most agile among the sample countries in terms of reporting environmental concern. In contrast, Oman is the most conservative in expressing their status about environment followed by Israel.

Table 1. Country wise word count

	Adaptation	Mitigation	Financing	Vulnerability	Pollutants	Emitters	Consequences	Preparation
Algeria	51	60	11	9	19	50	5	9
Bahrain	45	16	6	10	4	60	17	24
Egypt	76	58	25	18	14	91	30	29
Iran	53	79	23	13	7	43	12	6
Israel	11	12	5	1	5	46	8	10
Jordan	168	101	68	62	18	327	134	138
KSA	52	38	14	18	6	43	13	20
Lebanon	78	98	7	14	3	49	41	10
Morocco	55	81	35	24	14	66	35	32
Oman	24	14	4	1	3	16	3	8
Qatar	30	43	9	9	10	51	23	10
Tunisia	91	154	53	17	34	217	27	33
UAE	33	28	20	9	8	61	26	17
Yemen	165	72	32	42	9	112	50	45
Sum	932	854	312	247	154	1232	425	391

Table 2. Descriptive statistics

	Adaptation	Mitigation	Financing	Vulnerability	Pollutants	Emitters	Consequences	Preparation
Mean	66.57	61.00	22.29	17.64	11.00	88.00	30.29	27.93
Median	52.50	59.00	17.00	13.50	8.50	55.50	24.50	18.50
Stan Dev.	47.55	40.24	19.23	16.35	8.45	83.98	32.88	33.80
Minimum	11	12	4	1	3	16	3	6
Maximum	168	154	68	62	34	327	134	138
Sum	932	854	312	247	154	1232	424	391
N	14	14	14	14	14	14	14	14

MOST DISCUSSED ISSUES IN INDCS

Majority of the countries have discussed about the effects of climate change more detailed than the existing measures addressing mitigation in practice. In addition to the discussions about prerequisites for mitigation plans, many countries have elaborated mitigation plans in energy sector, emission reduction targets and potentials as well as prioritized sectors. With regard to adaptation, priorities, current interventions, strategies and challenges have well been discussed by the selected countries. Few countries, namely Iran, Qatar and the UAE, have ensured intensive discussion on water sector, one of the priorities of the MENA nations. Figure 1

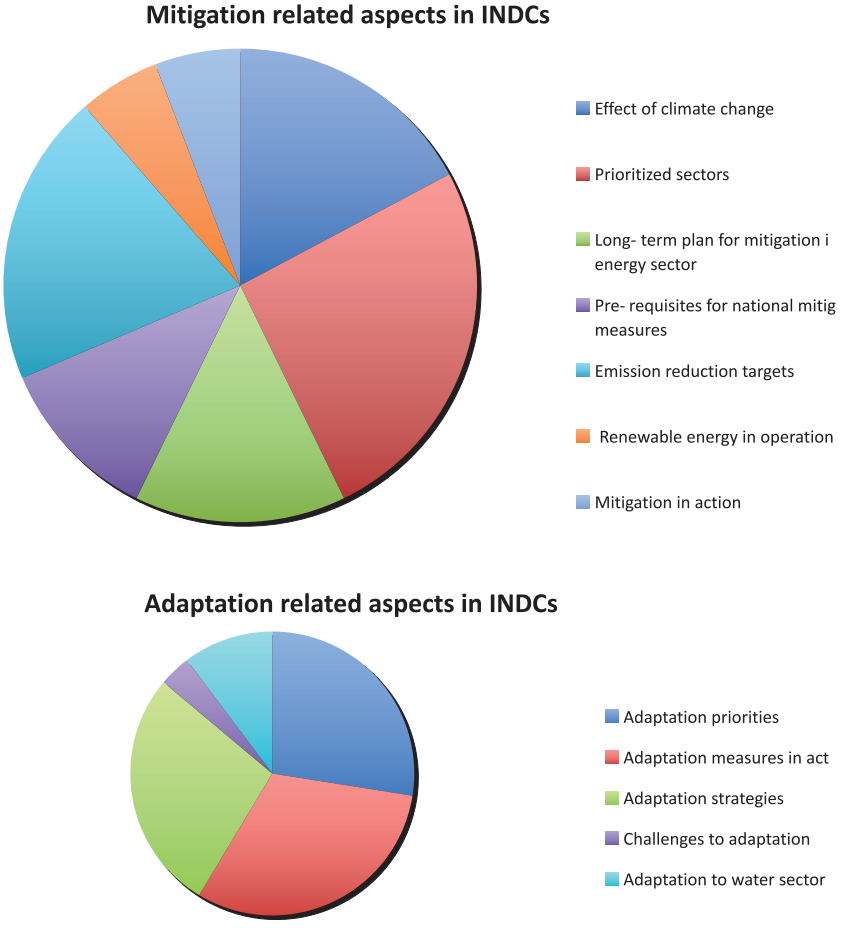

Fig. 1. i – Mitigation related aspects in INDC; ii – Adaptation related aspects in INDC

(both i and ii) has summarized the major issues related to mitigation and adaptation discussed in INDCs of the countries from MENA.

MITIGATION MEASURES IN ACTION

Quantitative analysis of emissions and national mitigation contribution backed by adequate data are hardly found in INDCs from the countries in MENA except the case of Morocco. Various types of contributions towards mitigation as well as both long- and short-term ambitions are not quantified. While addressing mitigation strategies, Tunisia has identified the challenges to energy sector. Bahrain, due to its smaller size in terms of population and economy, has explicitly mentioned deficiency in financial and technical capacities along with unavailability of emission-reduction technologies. Iran has mentioned that available hydrocarbon resources are the reasons to rely on energy-intensive industries that have made upward trend of greenhouse gas emissions in the country.

Algeria has been maintaining bottom-up and top-down methodological approach for mitigation concerning sectors and national objectives, respectively. However, other countries have hardly discussed about methodological approaches for emission reduction. Few countries have discussed about energy and electricity, energy demand, distribution and risk, renewable energy potential and importance of renewable energy technologies; however, challenges to reduce emission from energy sector have not been detailed by most of the countries in MENA.

ADAPTATION MEASURES IN ACTION

Although priorities and strategies are mentioned frequently in INDCs, detailed discussions about critical aspects of adaptation are not well penned. The expected contents about current and future adaptation actions, necessary supports for adaptation and climate resilient development are hardly found in the selected INDCs. Water sector has been the focus for few countries; besides, adaptation measures in natural resources, coastal zone management and agriculture have received minimal attention. Egypt and Yemen have discussed a little about the challenges for intervening adaptations. Among the GCC countries, Oman and Saudi Arabia have discussed more about the challenges to adaptation. Compared to the GCC countries, African nations have deliberated their strategies to adaptation more structurally.

FINANCIAL REQUIREMENT

In an attempt to showing financial requirement for addressing existing and planned adaptation and mitigation measures, most of the countries from MENA have not been efficacious enough. Few countries have emphasized on the necessity for financial resources, Tunisia for instance. Tunisia has also specifically given an estimation of financial requirement for capacity building. The only exception in the region is Saudi Arabia; it has not asked for any financial support from the external parties. The reportof the country states *"the implementation of Saudi Arabia's INDC is not contingent on receiving international financial support, but the Kingdom of Saudi Arabia sees an important role for technology cooperation and transfer as well as capacity building for INDC implementation."* Other countries from the region have asked for financial support in addition to national planned spending or national dedicated allocation for climate change action, for instance Jordan. Unlike the demand of Saudi Arabia, other oil exporting countries have asked for external financial support to implement INDCs.

TECHNOLOGY REQUIREMENT

Technologies already in use and technologies required for implementation of planned projects were expected to be

well documented in INDCs; however, few countries from the MENA region have been able to incorporate the issues. Iran, Oman, Saudi Arabia and Tunisia have mentioned some technologies, but have not discussed in detail about the specific technologies they need. While describing technologies, countries have mentioned, for instance about smart technology for agriculture, eco-friendly technology, technology for irrigation and water savings as well as technologies for renewable energy. Specification of environmentally sustainable technology, as asked by the UNFCCC for INDCs, has not been addressed. Egypt and Tunisia have discussed about the funding requirement for technology transfer.

CAPACITY BUILDING

Although explanation about current and potential capacity to implement projects has been a goal to be explained in INDCs, many countries have not been able to sufficiently elaborate their cases. Government policies, national target for 2030 and existing national programs and plans have been illustrated by most of the nations. Examples of national initiatives already been undertaken showing the capacity of the respective country are explained by the countries except Saudi Arabia and Oman. Capacities of the countries ranges from vulnerability assessment to legal and institutional framework development to core implementation of projects like solid waste management, protection of archeological sites and initiation of public transport system. Table 3 shows the core capacity concerns and the respective application the countries claim.

CONCLUSION

This research has attempted to investigate the status of environmental facts and figures reflected in INDCs submitted by MENA nations before COP21. In so doing, the research has applied content analysis method. Since there is a dearth of this kind of research in the existing literature, the study provides new information about the status of environmental facts of the sample countries. The research also has some practical policy implications. Content analysis shows that the World Bank's expectation about MENA region's *repository of traditional and institutional knowledge* preservation and dissemination towards a global effort to address climate change [World Bank, n.d.] has not been sufficiently reflected in the submitted INDCs. Results of the analyses show that majority of the countries in MENA are not able to structurally formulate national communication, like INDCs. Jordan's INDC is more detailed compared to those submitted by other countries. Specially, non-GCC nations (among the MENA countries) seem to be more serious about the preparation of INDC compared to that of GCC countries. Effective policy making requires the flow of information in a timely fashion. If the concerned countries do not submit their INDCs well ahead of time, the preparatory committees will not have sufficient time to prepare the agenda that would reflect the real needs of the country to tackle environmental problems.

Some countries are not open enough (Oman and Israel, for instance) in disclosing their status of environment. Thus, timely submission of INDCs alone is not sufficient for strategizing climate policies; rather countries should bring reliable and measurable information sufficient enough for formulating action-oriented policies. In addition, information disclosed by most of the countries is very subjective in nature, which makes it difficult to understand and interpret. In this regard, a pro-forma specimen can be designed for uniformity and better analysis of data. The research also shows that some countries are not explicit about their current actions and future strategies in adaptation to and mitigation of climate change. Sustainable living in this planet requires an urgent and collective response to resolve the problem.

Table 3. Capacity concern of the MENA countries towards INDCs

Country	Most discussed issues on capacity development in INDCs	
	Core activities	Derived focus
Algeria	Government policy, 2030 target, national programs, plan for capacity development program	Institutional framework, solid waste management, land erosion and desertification
Bahrain	Government policy, 2030 target, national programs, prerequisite for national mitigation measures	Integration of mitigation and adaptation, thermal insulation on buildings, use of liquefied petroleum and natural gas
Egypt	Government policy, 2030 target, national programs, prerequisite for national mitigation measures	Vulnerability assessment of sectors, enforcement of environmental regulations, protection against touristic and archeological sites, regional water circulation
Iran	2030 target, national programs, technology requirement	Reduction of energy consumption, operational efficiency by reducing leakage of natural gas, electricity transmission and distribution
Israel	2030 target, conflicting interest with biodiversity and energy production	Institutional arrangement and policies
Jordan	2030 target, national program, planned activities	Substantial number of projects on mitigation
KSA	Investment in Research and Development	–
Lebanon	2030 target, government policy, plan for capacity development	National energy efficiency action plan
Morocco	2030 target, government policy, national programs	Legal and institutional reform aiming green economy
Oman	–	–
Qatar	Government policy, national programs, plans for capacity development	Waste treatment facilities, development of public transport systems, export of liquefied natural gas, investment in education and research for environment and climate change awareness
Tunisia	2030 target, government policy, national programs	Reduction of emission in different sectors
UAE	Government policy, plan for capacity development	Tariff reform, building construction and efficiency standards
Yemen	Target 2030, plan for capacity development, challenges to adaptation	Rural development, small holder agricultural productivity management, integrated coastal zone management

In this regards, INDCs can play a significant role by providing objective, timely, and reliable information, which is missing at present in many countries from MENA. Although many countries have addressed issues differently, overall the countries from MENA have shown inordinate similarities in communicating INDCs to the UNFCCC.

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Syed Mahbubur Rahman is the Head of Research and Documentation at Association for Socio-Economic Advancement of Bangladesh (ASEAB), a national non-governmental organization working for an equitable society. He also leads the research program of PROGGA: Knowledge for Progress, a development think-tank in Bangladesh. He is an adjunct faculty at Faculty of Business Administration, American International University-Bangladesh (AIUB). He has graduated from Islamic University, Kushtia, Bangladesh, and has obtained Master of Engineering from Trier University of Applied Sciences, Germany; Master of Science from Ritsumeikan Asia Pacific University, Japan; and Master in Bank Management from Bangladesh Institute of Bank Management (BIBM). He has worked as lecturer and researcher in different universities in Oman, Thailand, Germany and Bangladesh. His research focuses on climate change and policy including finance, environment and energy policy, development and business applications. His main publications are "Solar Home System (SHS) in rural Bangladesh: Ornamentation or fact of development?" (2013, with co-author), "Climate finance in the Greater Mekong Subregion (GMS)" (2014, with co-author).

Mohammad Dulal Miah is currently working as Assistant Professor at the College of Economics, Management, and Information Systems, University of Nizwa, Oman. Before joining University of Nizwa, he worked as assistant professor and head of the department of finance at American International University-Bangladesh (AIUB) for five years. He has received his MBA (Finance) and Ph. D. (Development Economics) both from Ritsumeikan Asia Pacific University, Japan. His research interests include corporate governance, corporate environmental performance, comparative financial system, and Islamic finance. His work has appeared in several peer-reviewed international journals including Asian-Pacific Economic Literature (Wiley), Communist and Post-Communist Studies (Elsevier), and Evolutionary and Institutional Economics Review (Springer).