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Report – Public Talk

"Climate Change: Energy Strategies for Mitigation"

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The Institute of Strategic Studies Islamabad (ISSI) organized a Public Talk titled, *"Climate Change: Energy Strategies for Mitigation,"* on November 26, 2019 under its Distinguished Lecture Series. Ambassador Shafqat Kakakhel, former UN Assistant Secretary General and Chairperson of the Board at Sustainable Development Policy Institute (SDPI), was the guest speaker at the occasion.

Welcoming the speaker and guests, Director General ISSI, Aizaz Ahmad Chaudhry said that the topic of the public talk is very important, especially for Pakistan which is the eighth most affected country by climate change. He informed the guests that this year, the Institute has organized two events on energy issues of Pakistan and one on climate change. Ambassador Chaudhry said that while everyone is convinced that climate change is a reality, what is needed is urgent adaptation actions without compromising the country's development needs and goals. Three aspects are important in this regard: reduce domestic emissions from all sectors; encourage local adaptation strategies to deal with the impacts involving local stakeholders; and work with international support, such as through the Green Climate Fund. Mitigating the impacts of climate change is one side of the story. Living with the impacts is another. Ignoring the impacts of climate change is no longer an option.

Ambassador Chaudhry identified an array of the key climate change manifestations that impact Pakistan which include: increased variability of monsoons; receding Himalayan glaciers, with impact on the Indus River system, decreased capacity of water reservoirs, reduced hydropower generation during drought years, and extreme events including floods and droughts. Other potential climate change induced impacts include: severe water stress; food insecurity due to decreasing agricultural and livestock production; more prevalent pests and weeds; degradation of ecosystems; and biodiversity loss. Higher temperatures may affect the composition, distribution and productivity of mangroves, while lower precipitation could contribute to salt stress.

Ambassador Chaudhry further said that one can imagine the consequences if sea-level continues to rise; floods occur frequently; droughts happen; and glaciers melt. Water stress could quickly become a food security issue. Pakistan has rightly supported and

engaged with international efforts to mitigate the impacts of climate change. However, there are indicators that it will now be nearly impossible to meet the Paris Agreement target of restricting climate change to below 1.5 degrees Celsius. This means that countries like Pakistan must get ready for living in a world with climate impacts. The developing countries like Pakistan will have to bear the bulk of the burden of adaptation itself. He pointed out that in the past two events that ISSI organized on energy issues in Pakistan, it was noted that there is a need for an Integrated Energy Plan with participation from public and private sector stakeholders.

In his presentation, Ambassador Shafqat Kakakhel said that Pakistan's energy needs have increased exponentially since the 1960s due to population growth, urbanization, economic development, industrialization, and the Green Revolution in agriculture. Energy requirements were met through hydropower (Mangla, Tarbela), domestic gas reserves and imported oil. From year 2000 onwards, supply-demand gap widened and demand outstripped energy production. There was a shortfall of 8,500 MW (40% of needs) in 2012, which caused 4% loss in GDP. Aggressive initiatives since 2000 included coal-based power generation. Under Phase 1 of CPEC, supply increased to 35,000 MW, and is growing. However, nearly 51 million Pakistanis, mainly in rural areas, lack access to power. Demand for power is expected to grow by 9% annually. Gradual depletion of non-renewable sources such as gas reserves necessitates formulating responses to meet the demands. There is a need to ensure optimize energy use by overcoming distribution and transmission problems, especially electricity theft.

Ambassador Kakakhel further added that in June 1992, 192 states attending the Rio Summit on Environment and Development adopted the UN convention on Climate Change (CC). The problem relating to CC is unprecedented growth in release and concentration of Carbon Dioxide and other greenhouse gases (GHG) since the Industrial Revolution has gradually increased the planet's surface and ocean temperatures by 1.1 degree Celsius – disrupting the equilibrium vital to ecosystems and the environment broadly. Other drivers of climate change and global warming include: de-forestation (including destruction of mangroves and wetlands); harmful agricultural practices; toxic

methane emissions; mining; black carbon; and the human factors (due to population growth).

Impacts of CC include higher temperatures that are contributing to extreme environmental and climatic changes, including: melting of the Arctic ice and swelling of sea levels; rapid depletion of ice and snow from glaciers (essential sources of freshwater); frequent bouts of extreme weather events such as floods, droughts, coastal storms and heat waves; increase in number of natural disasters such as destructive tsunamis and hurricanes. He added that consequences of CC include: destruction and degradation of coastal regions, including submergence of islands and low-lying coastal areas; inundation of agricultural land and contamination of freshwater; destruction of aquatic species; involuntary migration to relatively safer places for homes and livelihoods; recession of glaciers and disruption of monsoon winds will lead to reduced water supply for agricultural production, and disruption of energy generation and critical food supplies; exacerbation of land, water, and air pollution; increase in tropical, water-borne diseases and epidemics and overall deterioration of health conditions adversely affecting human security and economic productivity; slowing down of economic development, increased poverty, and growing political, social and ethnic tensions; damage to military assets in sea and on land; reduced resources for defense and deterrence, and deployment of military personnel for disaster relief activities to the detriment of effective vigilance along troubled borders.

Ambassador Kakakhel pointed out the main pillars of Climate Action (UNFCCC 1992 and Paris Agreement 2015) which include: mitigation of climate change drivers such as reduction in GHG emissions, as well as adaptation to its negative effects require concerted actions by all countries and communities of the world; imperative of cooperation at bilateral, regional, and international levels to support domestic initiatives of states, especially in the developing world and small island states likely to be disproportionately vulnerable to CC impacts; developed countries have to carry out drastic cuts in their GHG emissions, and assist developing countries in coping with the adverse impacts of climate change, as well as adopting low carbon trajectory of economic development. He then talked about the key elements of the Paris Agreement 2015 which are mitigation, adaptation and climate finance.

Ambassador Kakakhel, then moved on to explain the factors of Pakistan's vulnerability to CC which include: location in a hot and humid climatic zone with low average rate of precipitation in most of the country; high population growth (2.4% per annum) and unregulated urbanization; expansive coastal regions (over 1000 KM long); historic proclivity to extreme weather events; low rate of economic development and widespread and proliferating poverty; critical dependence on low productivity agriculture and livestock sector; dependence on high altitude mountain glaciers whose ice and snow-melt feeds the flows of rivers, and monsoons; overall governance challenges and poorly resourced disaster warning and preparedness system, especially at the provincial and lower levels of government. The consequences of CC for the country include: declining agricultural productivity and slower rates of socio-economic development and growing poverty, ill health, and insecurity; excessive pressure on meagre disaster management capacity; involuntary migration with all its multiple discontents; trans-boundary river disputes with India and Afghanistan leading to exacerbation of tensions.

Talking about Pakistan's CC agenda, Ambassador Kakakhel said that as a Party to the UNFCCC and the Paris Agreement, Pakistan is obliged to reduce its GHG emissions through mitigation efforts. Furthermore, Pakistan's National Climate Change Policy (NCCP) adopted in 2012 along with the Framework for the Implementation of the NCCP (2013), recommended an array of mitigation measures such as development and deployment of renewable sources of energy including clean coal and nuclear power generation; energy efficiency and energy conservation and reduction of emissions in agricultural and transport sectors amongst others. He then touched upon Pakistan's CC Act (2017), which establishes a comprehensive institutional architecture for the development and implementation of Pakistan's policies, strategies, plans, programs and projects concerning adaptation and mitigation in pursuance of the country's international treaty commitments. The institutional structure includes: a Climate Change Council (PCCC) headed by the Prime Minister or a person nominated by him, and comprises the Chief Ministers of all the provinces, heads of all statutory bodies dealing with matters related to climate change; the Climate Change Authority (CCA); and a Climate Change Fund (CCF).

Talking about energy policies, Ambassador Kakakhel stated that in 2005, the National Energy Conservation Centre (ENERCON) and the M/O Environment jointly issued a report titled 'National Energy Conservation Policy' which comprised guidelines and possible action by different energy consuming sectors for enhancing use efficiency and conservation. The 7-page policy document made no mention whatsoever of alternative or renewable or clean energy. In 2015, a Power Generation Policy was developed to facilitate private sector investment in energy projects and encourage use of indigenous sources. The Alternative and Renewable Energy Development Board (AEDB) was established in 1983 with a mandate to develop policies, programs and projects for development of Alternative and Renewable Energy through the private sector and to encourage transfer of technology and local manufacturing of renewable energy equipment. Furthermore, on November 20, 2019, Mr. Omar Ayub Khan, Federal Power Minister, formally unveiled a new Alternative and Renewable Energy Policy 2019 (AREP) prepared by the M/O Energy (Power Division) and approved by the Federal Cabinet. The new policy is based on the lessons from the implementation of the 2006 policy, as well as global technological advances in development and deployment of renewable energy technologies and best practices. According to the new policy, the Government will announce the production targets, provide the site, identify the type of renewable energy and invite bids by local and international investors. The cost factor will be decisive in the award of contracts. The scope of renewable sources includes solar, wind, biomass; geothermal; ocean/ tidal wave technology; energy from all kinds of waste; hydrogen or synthetic gas.

In conclusion, Ambassador Kakakhel said that development and deployment of renewable energy will ensure Pakistan's compliance with its obligation under the Paris Agreement to significantly reduce its GHG emissions and enhance its credentials as a responsible member of the international community. This is also the goal of Clean and Green Pakistan initiative announced by the Prime Minister recently. Other benefits include: reduction in the huge oil import bill currently estimated at USD 16 billion, as well as expenditure on imported LNG; reduction in air pollution; increase access to electricity in the relatively poorer regions, as well as create a large number of jobs and livelihoods. Talking about coal energy plants, he said that given the grave threats posed by transportation and

utilization of coal, recognized as the dirtiest source of energy, the government must unequivocally declare its resolve to not install any more coal-based power generation plants. Efforts also need to be made to reduce the damage caused by the already installed coal-based plants.

Additionally, the AREP 2019 should be linked to Pakistan's Climate Change Mitigation Plan aimed at implementing the National Climate Change Policy 2012. The Mitigation Plan should comprise targets for all the GHG emitting sectors such as energy, industry, agriculture, transport, building and construction, and wastes of all kinds. The new AREP should form part of an Integrated Energy Policy and Plan. The elaborate Integrated Energy Plan developed with technical assistance of the Asian Development Bank in 2011 targeting production of 17,400 MW of wind and solar power ,and 17,392 MW of hydropower by 2022, should be updated in light of relevant developments and best practices with the involvement of all stakeholders and implements in a systematic manner. The plan should aim at enhancing coordination and coherence among public sector agencies and between public sector and private sectors, as well as between the Federal and provincial authorities. Lastly, he said that there is a need for extension of the transmission and distribution grids, domestic manufacturing of Alternative and Renewable Energy equipment, and human resource and capacity development.

Ambassador Khalid Mahmood, Chairman BOG ISSI, concluded the talk by thanking the guests and the participants. He said that today's subject is very important as it not only effects Pakistan, but the whole world, and the gravity of the situation has been highlighted by Ambassador Kakakhel. He noted that the Paris Agreement provides a very forward-looking plan of action and it is important that it is adhered to. Energy management is a multidimensional subject and very important for CC issues. Pakistan is already experiencing CC effects compounded by pollution, especially in urban centres. There are two ways to deal with it. One is mitigation and the other is adaptation. But this is not enough, we also need a comprehensive plan in line with the Sustainable Development Goals.

He said that creating awareness among the society is also very important. Pakistan is lacking necessary steps to overcome this issue at individual, institutional and policy level. Capacity building is a must which needs resources and Pakistan has to look at avenues like the Green Fund. It is rightly stressed by the developing countries that the problem of CC is a creation of the developed world, but now there is a common effort with differentiated responsibility. Nationally, we need to change our energy mix and move towards alternative sources of energy. Pakistan has gone through the worst form of energy cuts just recently and it effected the country's economy and coal was a short-term fix. In the long run, we need to develop our hydro capacity. The 18th amendment has shifted the responsibility to the provinces and there is a need for better cooperation between the provinces. Also, there is a need for regional cooperation to tackle the menace of CC. He said that CC is a real challenge and it cannot be ignored and we need to address it for our upcoming generations.

PICTURES OF THE EVENT