

**PRESS COVERAGE OF NATIONAL WORKSHOP
“Civilian Uses of Nuclear Energy in Pakistan: Opportunities and Prospects”**

27 December 2016, Islamabad

NATIONAL



‘Quality, capacity, safety of Pakistan’s nuclear weapons better than India’s’

IKRAM JUNAIDI — 28 Dec 2016

ISLAMABAD: Pakistan’s nuclear programme was launched for peaceful purposes but national security issues forced the country to build nuclear weapons, former nuclear scientist and the chairman of the Underground Gasification Project at the Thar Coal Field, Dr Samar Mubarakmand, said on Tuesday.

Dr Mubarakmand was speaking at a seminar titled ‘Civilian Uses for Nuclear Energy in Pakistan: Opportunities and Prospects’, organised by the Islamabad Policy Research Institute (IPRI).

Although the seminar was supposed to focus on nuclear energy, the discussion revolved mostly around nuclear weapons and nuclear material.

Dr Mubarakmand said Pakistan’s nuclear programme was always peaceful, and there have been various peaceful applications of nuclear technology such as the

establishment of several nuclear medical centres, agricultural research centres and the radioactive tracers used by the Water and Power Development Authority (Wapda) to build the Mangi Dam in Balochistan.

Because Pakistan is not a signatory of the Non-Proliferation Treaty, he said it was impossible for the country to receive simple technology, and this was possible because of Pakistani scientists who despite heavy sanctions made Pakistan a nuclear state.

“The relaxation of bans by members of the Nuclear Suppliers Group (NSG) with respect to India as a special dispensation in 2008 under US lobbying, and the current efforts to make India a member of the NSG is an example of the biased Western psyche and mindset,” he claimed.

Defending Pakistan against allegations of helping Iran and Libya build nuclear weapons, he said both those countries remain non-nuclear states.

“The world can see that Pakistan’s civilian nuclear programme is not being used for military purposes. No theft of nuclear material has ever taken place in Pakistan. We need to survive in the subcontinent with dignity and, being a smaller state, Pakistan restored the balance of power by conducting nuclear tests after India,” he said.

Strategic Vision Institute Executive Director Prof Zafar Iqbal Cheema said the treatment given to India by the West is evidence that politics prevails over rules.

“India was trying to make nuclear weapons since 1959, but India is considered a country with a good track record and Pakistan is considered a country that cannot be trusted. However, it is a fact that the quality, capacity and safety of Pakistani nuclear weapons are better compared to India’s,” he claimed.

Prof Cheema endorsed a statement by the Senate chairman, where he claimed that Pakistan was denied nuclear energy because it is a Muslim country.

National Defence University assistant professor Dr Rizwana Karim Abbasi, however, did speak about nuclear energy. She said the demand has increased since the 1990s, and nuclear energy could fill the demand for energy.

“Greenhouse gases have to be cut by 70pc by 2050 so the world will definitely move towards nuclear energy, which is cheaper and environment-friendly. China is producing 19,000MW of electricity through nuclear energy. India and 31 other countries are also going for it,” she said.

“Although incidents of atomic reactor accidents in Germany and Japan have led to resistance to nuclear energy in the West, it is still believed that nuclear energy should be used,” she added.

Dr Abbasi said fossil fuels increase environmental pollution so the world needs to depend more on nuclear power, and safety standards have to be improved.

“Pakistan needs to secure its membership in the NSG, and it should make more nuclear power plants to make more energy,” she said. The former chairman of the Pakistan Atomic Energy Commission, Dr Pervez Butt, said Pakistan has been considering producing 8,835MW electricity through nuclear energy by 2030, which will meet 5 to 8pc of the total requirement.

Published in Dawn, December 28th, 2016

<http://www.dawn.com/news/1304890/quality-capacity-safety-of-pakistans-nuclear-weapons-better-than-indias>

Civilian use of nuclear energy expanding

December 28, 2016

Pakistan legitimate candidate for nuclear commerce

Ashraf Ansari

The global non-proliferation regime is subservient to international politics and strategic interests. Pakistan is a candidate for legitimate nuclear commerce and international cooperation. The non-proliferation regime needs to fairly assess the existing security realities in South Asia, and stop unduly targeting Pakistan's civilian nuclear programme. This was the unanimous call of leading policy, technical and academic experts at the one-day workshop on "Civilian Uses of Nuclear Energy in Pakistan: Opportunities and Prospects" organized by the Islamabad Policy Research Institute here Tuesday. The speakers discussed the problems facing Pakistan's civilian nuclear programme, its merits and importance, the expansion policy of the programme, nuclear diplomacy and the politics of non-proliferation. Welcoming the participants to the workshop, President of IPRI, Ambassador (R) Sohail Amin said Pakistan takes great pride in the efforts and success of its scientists and engineers in establishing and developing the nuclear programme. But he stressed that in order to fulfill the country's socio-economic goals, international cooperation and assistance for nuclear energy under IAEA

safeguards is needed for a level playing field, based on criteria rather than discrimination or real politik.

He argued that the Nuclear Suppliers' Group (NSG) is better off with Pakistan in it, rather than being left outside. "Pakistan has demonstrated an interest in developing its civilian nuclear sector for energy, medical, agriculture and Research and Development purposes. The Energy Security Action Plan of the Planning Commission of Pakistan envisages increasing the share of nuclear in the total energy mix from 0.67 to 15.11 per cent." In any case, Pakistan's potential for both nuclear imports and exports is better than many current NSG member states, he pointed out.

The Chief Guest of the workshop, Dr Samar Mubarakmand, Chairman, Board of Governors, Underground Gasification Project, Thar Coal Fields and the Founding Chairman of NESCOM (National Engineering and Scientific Commission), shared that Pakistan's nuclear programme has always been peaceful and there have been various peaceful applications of nuclear technology, including establishment of several nuclear medical centers at Peshawar, Karachi, Quetta and in Gilgit Baltistan for diagnosis and treatment of cancer, with two new ones approved for Chitral and Mardan. Agricultural research centers for improvement in crop yields have also done excellent work in KPK, Punjab and Sindh, he said. Radio active tracers were used by WAPDA to construct Mangi Dam in Balochistan. Sand and silt movement studies were conducted to prevent the blockage of shipping channels at Karachi harbour.

Being a non-NPT nuclear weapons state, Pakistan has been embargoed by the international export control cartels such as the Nuclear Suppliers Group (NSG) making it impossible for Pakistan to obtain even the simplest technologies, let alone nuclear reactors. It goes without saying that it is because of Pakistan's nuclear scientists and technicians that despite heavy layers of sanctions,

Pakistan became a nuclear state through its indigenous capacity, he said. "The relaxation of embargoes by members of the NSG with respect to India as a special dispensation in 2008 under intense US lobbying, and the current efforts to make India a member of NSG is indicative of biased Western psyche and mindset." Trumpeting that Pakistan has a shady track record of nuclear proliferation towards Iran and Libya lack any merit given how decades have passed and both countries remain non-nuclear states, he opined. The various civilian plants established and being run are voluntarily open to International Atomic Energy Agency (IAEA) so that the world can see that Pakistan's civilian nuclear programme is not being used for military purposes. Given the highest safety and security in place, no pilferage or theft of nuclear material has ever taken place in Pakistan. Despite massive pressure of terrorism, due to its excellent command and control systems in place, Pakistan's facilities remain secure. We need to survive in the subcontinent with dignity and being a smaller state, Pakistan restored the balance of power by conducting the nuclear tests, after India.

Seminar on civilian use of nuclear energy held

December 27, 2016

VIDEO AVAILABLE ONLINE: <http://vid.app.com.pk/vid/2016/12/seminar-on-civilian-use-of-nuclear-energy-held/>

ISLAMABAD, Dec 27 (APP): Islamabad Policy Research Institute (IPRI) Tuesday organised a seminar on “civilian use of nuclear energy” at a local hotel. Speaking on the occasion Pakistani nuclear physicist Dr Samar Mubarakmand said that nuclear technology is being used in several fields to produce healthcare solution, agriculture products and to explore several energy resources.

He said nuclear applications are installed in several medical institutions to treat cancer patients, as well as in agriculture sector to produce agriculture products. Dr Samar Mubarakmand highlighted the several valuable procedures to use nuclear technology for civilian purposes.

Talking about the establishment of nuclear energy policy he said in 1974 the geo political situation of subcontinent demanded us to establish nuclear technology infrastructure, followed by the atomic exploration by India, to keep the power balance in the region. He said nuclear technology make Pakistan’s defence impregnable.

APP/Ahsan/mka/VNS Islamabad

<http://vid.app.com.pk/vid/2016/12/seminar-on-civilian-use-of-nuclear-energy-held/>

Civilian Uses of Nuclear Energy in Pakistan: Opportunities and Prospects

DNA News | December 27, 2016



The global non-proliferation regime is subservient to international politics and strategic interests. Pakistan is a candidate for legitimate nuclear commerce and international cooperation. The non-proliferation regime needs to fairly assess the existing security realities in South Asia, and stop unduly targeting Pakistan's civilian nuclear program. This was the unanimous call of leading policy, technical and academic experts at the one-day workshop on "Civilian Uses of Nuclear Energy in Pakistan: Opportunities and Prospects" organized by the Islamabad Policy Research Institute here in the capital. The speakers discussed the problems facing Pakistan's civilian nuclear program, its merits and importance, the expansion policy of the program, nuclear diplomacy and the politics of non-proliferation.

Welcoming the participants to the workshop, President of IPRI, Ambassador (R) Sohail Amin said Pakistan takes great pride in the efforts and success of its scientists and engineers in establishing and developing the nuclear program. But he stressed that in order to fulfill the country's socio-economic goals, international cooperation and assistance for nuclear energy under IAEA safeguards is needed for a level playing field, based on criteria rather than discrimination or real politik. He argued that the Nuclear Suppliers' Group (NSG) is better off with Pakistan in it, rather than being left outside. "Pakistan has demonstrated an interest in developing its civilian nuclear sector for energy, medical, agriculture and Research and Development purposes. The Energy Security Action Plan of the Planning Commission of Pakistan envisages increasing the share of nuclear in the total energy

mix from 0.67 to 15.11 per cent.” In any case, Pakistan’s potential for both nuclear imports and exports is better than many current NSG member states, he pointed out.

The Chief Guest of the workshop, Dr Samar Mubarakmand, Chairman, Board of Governors, Underground Gasification Project, Thar Coal Fields and the Founding Chairman of NESCOM (National Engineering and Scientific Commission), shared that Pakistan’s nuclear program has always been peaceful and there have been various peaceful applications of nuclear technology, including establishment of several nuclear medical centers at Peshawar, Karachi, Quetta and in Gilgit-Baltistan for diagnosis and treatment of cancer, with two new ones approved for Chitral and Mardan. Agricultural research centers for improvement in crop yields have also done excellent work in KPK, Punjab and Sindh, he said. Radio active tracers were used by WAPDA to construct Mangi Dam in Balochistan. Sand and silt movement studies were conducted to prevent the blockage of shipping channels at Karachi harbour.

Being a non-NPT nuclear weapons state, Pakistan has been embargoed by the international export control cartels such as the Nuclear Suppliers Group (NSG) making it impossible for Pakistan to obtain even the simplest technologies, let alone nuclear reactors. It goes without saying that it is because of Pakistan’s nuclear scientists and technicians that despite heavy layers of sanctions, Pakistan became a nuclear state through its indigenous capacity, he said. “The relaxation of embargoes by members of the NSG with respect to India as a special dispensation in 2008 under intense US lobbying, and the current efforts to make India a member of NSG is indicative of biased Western psyche and mindset.” Trumpeting that Pakistan has a shady track record of nuclear proliferation towards Iran and Libya lack any merit given how decades have passed and both countries remain non-nuclear states, he opined.

The various civilian plants established and being run are voluntarily open to *International Atomic Energy Agency (IAEA)* so that the world can see that Pakistan’s civilian nuclear program is not being used for military purposes. Given the highest safety and security in place, no pilferage or theft of nuclear material has ever taken place in Pakistan. Despite massive pressure of terrorism, due to its excellent command and control systems in place, Pakistan’s facilities remain secure. We need to survive in the subcontinent with dignity and being a smaller state, Pakistan restored the balance of power by conducting the nuclear tests, after India. He stressed that while a big opportunity exists between China and Pakistan to acquire experience and expertise in construction of nuclear power plants, he hoped that Pakistan finds the courage and confidence to build its first nuclear power plant completely with its own expertise. Development of nuclear energy is not only curing cancer patients, improving crop yields, helping industries and the economy, it has also helped in avoiding large scale wars in the region, he concluded.

Speaking on ‘Energy Crises and a Story of Success’, Dr Pervez Butt, Former Chairperson of the Pakistan Atomic Energy Commission (PAEC) recommended the creation of a “National Energy Authority.” He shared that for accelerated economic growth, Pakistan must indigenize, industrialize, build public sector industrial entities to reduce imports and provide economic competition to the private sector. He lamented that even though large-sized, cost-effective and highly efficient multi-unit plants generate economically attractive electricity, they are missing in Pakistan.

He stated that WAPDA and PAEC were both created almost at the same time. PAEC is a multi-faceted, large research, scientific, technological and manufacturing organization. Perhaps because of its incentive-based governance and encouragement of excellence and meritocracy it has outperformed WAPDA. He also opined that having a strong independent regulatory authority like PNRA has also helped in ensuring safety, reliability, accountability and efficiency.

He clarified that only 42 Canadians worked on the *Karachi Nuclear Power Plant (KANUPP)* site when it was commissioned and constructed, and it continues to operate safely in its 44th year because of indigenization. "As on 30 June 2015, the nuclear power plants of Pakistan are outperforming others by working at 94.8 per cent. Of the total electricity generation mix of Pakistan, nuclear energy has the potential to reach 5-8 per cent by 2030," he said. But in order to reach this target, Pakistan needs to implement extensive management reforms by creating financially independent entities in the electricity and energy generation business.

Dr Rizwana Karim Abbasi, Assistant Professor at the Faculty of Contemporary Studies from the National Defence University, Islamabad, spoke on "Pakistan's Peaceful Nuclear Energy Program and Expansion Policy: A Critical Analysis." She said that global statistics show that nuclear expansion between 2010 and 2030 will lie largely in the developing regions of the world and not the developed ones. China is producing 19,050 MW at present and aspires to produce 400,000 MW by 2050. India plans to boost its nuclear capacity 15 fold by 2032. Following the progress made on Chashma 2 and 3 and contextually recognizing the need for more energy, Pakistan announced in June 2013 that two 1,000 MW reactors would be installed as K2 and K3 that would be finalized by 2020 and 2021, respectively. "Nuclear power plans might just be Pakistan's only chance to prevent power starvation and insufficiency on sustainable ground. Nuclear energy indeed offers greater, lower cost environmentally safe source of energy for Pakistan," she stressed. Deliberating on the international arrangements and institutions that promote and facilitate the peaceful uses of nuclear technology, Dr Rizwana emphasized that the IAEA, NPT and the NSG require revisions in the backdrop of increased demand for nuclear energy security. "The NPT or NSG cannot become resilient and effective while promoting selective approach to regulate global nuclear commerce. The NSG must urgently address the question of 'us' versus 'them' by creating balance between non-proliferation and peaceful uses of technology and gateway for new contenders," she emphasized. "It is high time that the Group members readjust the NSG guidelines to rein in the growing possibilities of vertical and horizontal proliferation globally by setting up a new formula on the principle of energy security for all in the 21st century," she argued. She hoped that the Group members would demonstrate responsibility by strengthening the global non-proliferation norm instead of weakening it.

Discussing the "Politics of Non-proliferation and Pakistan's Civilian Nuclear Program", Dr Zafar Iqbal Cheema, Executive Director of Strategic Vision Institute, Islamabad, argued that the global nuclear norms and practices are subordinate to international politics and the struggle for power. The purpose of NPT was for the member countries to undertake to eliminate nuclear weapons; and that those states which had not produced nuclear arms yet, should be discouraged to create them. Dr Cheema, while discussing its quest for membership in the Nuclear Suppliers' Group (NSG), said that one must keep in mind the national and international dynamics of inclusion of Pakistan in the NSG. "Pakistan has been denied provision of nuclear technologies and its use for peaceful purposes," he argued.

Dr Ansar Parvez, Former Chairperson, Pakistan Atomic Energy Commission (PAEC), informed the participants that the country began its journey towards proficiency in civilian nuclear energy in 1972, and was forced for its military use following India's nuclear explosions. The former PAEC chairman said the initial years were utilized in gaining experience in safe operation of plants, building confidence and acquiring technology. The platform, he underscored, is now producing electricity from nuclear sources more efficiently than other traditional plants and sources. Unfortunately, there is lack of sufficient nuclear outreach and awareness in Pakistan.

Mr Kamran Akhtar, Director General, Disarmament Affairs from the Ministry of Foreign Affairs stressed that while acting responsibly and fully observing its legal obligations vis-à-vis nuclear non-proliferation, Pakistan should engage in peaceful nuclear commerce and be less restrictive on export of dual use goods. "We need to develop the mindset of a nuclear power rather than being reluctant about our capabilities in this area", he urged. The DG also remarked that the Government needs to see whether there is enough money allocated for nuclear energy development under the Planning Commission's Vision 2025 plan. Pakistan should burnish its nuclear credentials and not shy away from them, he added.

Dr Imtiaz Ahmed, Director General, International Affairs & Training, Pakistan Atomic Energy Commission discussed how every analytical technique in some way or the other utilizes nuclear technology as the basis, therefore, nuclear data at trace levels is critical. It even has a role in food security, with over 3000 varieties of crops using nuclear technology worldwide. Soil degradation can also be studied and understood through this technology, he said.

Mr Abdul Shakoor, Director Physical Protection and Nuclear Security from the Pakistan Nuclear Regulatory Authority (PNRA) outlined that Pakistan has established an effective nuclear safety regime which is in line with the international best practices. The country's nuclear legislative and regulatory framework is well-established, with strong institutions and systems in place that are responsible for implementation of nuclear-related decision-making and oversight, including the National Command Authority which has a robust structure chaired by Prime Minister. Ms Saima Aman Sial, Senior Research Officer from the Center for International and Strategic Studies in Islamabad discussed what Pakistan would gain from becoming an NSG member and the added value it will bring to the NSG, especially since the country's potential for both nuclear imports and exports is better than many current NSG member states. "NSG needs to be inclusive as per the evolved global nuclear order", she stressed.

Concluding the workshop, the Chair Air Commodore (R) Khalid Banuri, DG Arms Control Disarmament Affairs from the Strategic Plans Division highlighted that nuclear power is set to become a major player in Pakistan's power sector, and the work which has been done by the nuclear commissions is nothing less than a miracle. "Every state needs national progress. And for that, uninterrupted supply of energy is crucial – energy which is cost-effective, clean and cheaper." He agreed that given the nature and extent of its current civilian program and future plans for development, Pakistan is a befitting candidate for legitimate nuclear commerce and international cooperation. Pakistan has signed and adhered to many international conventions by enhancing safety and security of its nuclear material and nuclear sites. The global community needs to

recognize this, he emphasized. Nuclear energy, Mr Banuri said, is noncontroversial in Pakistan, and has support of all Pakistani political parties. This is something we should capitalize on. "We should talk more about the peaceful uses of nuclear technologies, including its medical and agricultural aspects, which often get the backseat due to the discussion on nuclear power or military side of the program. The path to Pakistan's mainstreaming in international non-proliferation regime will be technical, however, the decision to do so will be political. We have to learn to deal with it dispassionately", he concluded.

<http://www.dnaneews.com.pk/energy-nuclear/>