JOINT U.S. - KOREA ACADEMIC STUDIES

EMERGING VOICES

VOL. 22

KEI KOREA ECONOMIC INSTITUTE
한 미 경 제 연 구 소

2011 SPECIAL EDITION

Joint U.S. - Korea Academic Studies

Emerging Voices Vol. 22

2011 Special Edition

KOREA: ENERGY AND ECONOMY

South Korea's Nuclear Development Assistance in Southeast Asia:

The Implications and Challenges of the Security Environment in the 21st Century

Lisa He, *Georgetown University*
– recommended by David Steinberg, Georgetown University

Introduction

Since the advent of the Nuclear Age, the terrifying prospect of an accidental nuclear explosion raises grave security concerns. This issue remains under-examined in Asia, even though there is an unprecedented growth in nuclear generating capacity in China, Japan, South Korea, and India. With Southeast Asia in its backyard, these Asian nuclear powers have increasingly ubiquitous influence in shaping the sub-region's security environment.

Currently, several Southeast Asian countries aspire for civilian nuclear development to meet their increasing demands for electricity by which it will decrease reliance on coal and reduce greenhouse gas emission and pollution. This growing trend for nuclear generation in Southeast Asia quickly captured South Korea's interests to invigorate economic growth and ties to the region. Since 1991, South Korea has become a major foreign aid donor through the Korean International Cooperation Agency (KOICA) and the Economic Development Cooperation Fund (EDCF) through the Export-Import Bank of Korea (EXIM Bank), by investing in civilian nuclear development, and in cooperation in Thailand, Myanmar (Burma), Indonesia, Philippines, and Viet Nam.

The task of assessing South Korea's benign interests as a foreign aid donor on nuclear development is convoluted by an array of regional and international security issues. With the ongoing nuclear crisis in North Korea and Myanmar's alleged nuclear development, the Asia-Pacific region is confronted by a daunting list of regional security imperatives. Unsurprisingly, nuclear expansion in Southeast Asia is growing despite an alarming scale of nuclear catastrophes. And yet South Korea continues to expand its influence in aiding nuclear power development in Southeast Asia, which will not only affect regional dynamics, but also test the Association of Southeast Asian Nations (ASEAN)'s ability to uphold international peace and security to meet the challenges of aspiring nuclear power. The aim of this research paper is to examine South Korea's primary motivation in assisting ASEAN countries on nuclear training and development in the 21st century in three parts:

The first part of the paper introduces the background of Southeast Asia's preliminary interest and development process, supported by the United States, to harness nuclear energy during the 1950s and 1960s in the context of the Cold War period. It will also discuss ASEAN's declaration of the Zone of Peace, Freedom and Neutrality (ZOPFAN) in 1971 and the Treaty of Amity and Cooperation (TAC) in 1976.

The second part focuses on the post-Cold War era from 1990 to 2000, providing an overview of South Korea's growing influence in the region, and the subsequent establishment of the Southeast Asia Nuclear Weapon-Free Zone (SEANWFZ) Treaty in 1995.

The third part focuses on correlating South Korea's role in security agreements and the region's plan to establish nuclear power generators. Such an analysis seeks to assess, inform, and challenge the direction that countries with nuclear interests are heading through civilian nuclear development.

By illuminating both the positive and negative aspects throughout these varying periods, the conclusion analyzes how South Korea's monetary influence can shape Southeast Asian countries, ASEAN's efforts to uphold principles of international peace and security, and how the international community and institutions may respond to ensure Southeast Asia's safest possible nuclear development in the 21st century.

Southeast Asia's Nuclear Interests and Security Agreements

The United States in Southeast Asia

The first aspiration for nuclear development in Southeast Asia dates back to the 1950s and 1960s. The region garnered the United States' attention to support nuclear energy development in Thailand, Indonesia, Philippines, and Viet Nam. During the early Cold War period, under U.S. President Dwight D. Eisenhower's administration, the Atoms for Peace Program was established to focus on the peaceful uses of atomic energy and to defuse Cold War tensions[1]. This extensive program supported Southeast Asia's ambitions to harness not only nuclear energy to generate electricity, but also for uses in science, medicine and agricultural development. This appealed to Southeast Asian countries because they had just become independent from colonial rule. Therefore, having local capability for nuclear energy represented economic prestige, technological sophistication and modernity.

The United States thus provided for the transfer of equipment, nuclear fuel, and training, which established small nuclear research reactors within the region.[2] In Thailand, the Office of Atoms for Peace (OAP) was established in April 25, 1961, under the Atomic Energy for Peace Act of 1961. The following year, the Thai Research Reactor (TRR-1) began operations at Bang Keng, north of Bangkok, which fostered nuclear technology and development.[3] The program was designed to ensure safety for users and protect the public from radiation through education, and also regulated the use of nuclear energy.[4] However around October 1973, after the fall of Thanom Kittikachorn, and during the subsequent government under Sanya Thammasak, economic advisers were appointed to reevaluate the feasibility of the nuclear project. The report attacked the project on three focal points: environmental, technical, and economic.[5] For these reasons, Thailand had its first systematic rejection of a nuclear power plant."[6] In 1974, students from Bangkok University published a book, detailing the leaks from the plant, and that people were having clear symptoms of radiation sickness. Radioactive wastes polluted the "public water systems, which were used for irrigating rice paddies and which ultimately ran through Bangkok itself."[7] As a result, Thailand not only had to cope with negligent environmental pollution, but also grave economic concerns and impacts on its national debt.

On July 27, 1955, the Philippines, under President Ramon Magsaysay, allied itself with the United States to develop peaceful uses of atomic energy, under the Atoms for Peace Program.[8] On October 26, 1956, the International Atomic Energy Agency (IAEA) was approved by 81 nations –including the Philippines–

to encourage the development and practical application of atomic energy for purposes including the production of electric power, with due consideration for the needs of the underdeveloped areas of the world.[9] In 1958, the Republic Act 2067, which is also known as the Science Act of 1958, led to the establishment of the Philippine Atomic Energy Commission (PAEC).[10] The PAEC became the "regulatory authority over the licensing and regulation of all peaceful applications of atomic energy for the protection of public health and safety."[11] Between 1961 and 1963, the IAEA Secretariat compiled its first studies of national nuclear power plants in the Philippines, and was subsequently approved by the United States Nations Special Fund.[12] In 1963, the Atoms for Peace Program supported the Philippines' first research reactor. The Philippines used the only safeguarded nuclear materials that were nuclear fuels of the research reactor (PRR-1), which was designed by General Electric of U.S.A.[13] By 1976, agreements were settled over the construction of the first nuclear power plant. And in 1984, the Bataan Nuclear Power Plant (BNPP) was in development, and was set to deliver 620MW of electricity to the main island called Luzon.[14]

In southern Viet Nam, around early 1960, a research reactor called TRIGA MARK II came into operation under the Atoms for Peace Program in the hill town of Dalat.[15] [16] By December 1962, the reactor construction was completed. Two years later around March, the TRIGA research reactor was officially inaugurated with "the nominal power of 250 kW."[17] However, from 1968 to 1975, the reactor was shutdown, and the fuels were unloaded and shipped back to the United States due to the Viet Nam War Conflict.[18]

In April 26, 1976, the Vietnam Atomic Energy Commission (VAEC) was established, and later in April, 1994, it was reorganized and directed by the Ministry of Science and Technology (MOST). VAEC focuses on four core points:

1. Formulating the policy for nuclear power development;
2. Promoting the applications of nuclear techniques in medicine, industry, agriculture, geology, environmental protection, etc.;
3. Improving the research and development infrastructure;
4. Coordinating International and Regional Co-operation.[19]

In Indonesia, around the early 1950s, the United States supported Indonesian civilian use of nuclear energy.[20] However, because of the radioactive fallout from the U.S. thermonuclear weapon tests in the Pacific region, President Soekarno adopted an anti-Western stance, and formed a Commission on Radioactivity Research.[21] Further development took place on December 5, 1958, under Government Regulation No. 65, when Indonesia established the Atomic Energy Council and the Atomic Energy Institute (AEI, Lembaga Tenaga Atom, LTA). [22] Nevertheless, the United States supported Indonesia under the Atoms for Peace Program in 1961, resulting in the first construction of a research reactor in Bandung in West Java. Soekarno was then inspired by China's explosion of

an atomic device in October 1964, which led him to announce a plan to launch a nuclear weapon by July 1965.[23] In that same year, Government Regulation No. 33 had renamed the AEI the National Atomic Energy Agency (Badan Tenaga Atom Nasional), also known as BATAN.[24] However, Soekarno's nuclear aspirations ended when Soeharto came to power in 1966. During Soeharto's regime, "two other research reactors were [later] added, a 100-kilowatt reactor in Yogyakarta and a 30-megawatt facility in Serpong, on the outskirts of Jakarta."[25] By then, BATAN was operating a cobalt radiator at the research facility in Pasar Jumat, Jakarta for agricultural purposes. It wasn't until 1972 that Indonesia received help from the IAEA to assist BATAN's efforts in researching the feasibility of nuclear power in the nation.[26] But nuclear officials have done nothing to address the radioactive waste from the reactor that was polluting a nearby stream.[27]

ASEAN's Security Paradigm in the 1970's

Relations between Southeast Asia and the West can be traced back to the dawn of colonialism. Despite centuries of European imperialism, Southeast Asia truly emerged onto the world stage towards the beginning of the Cold War. Heavily influenced by major players in the region, Southeast Asia was driven by economic objectives to fuel growth, creating greater energy demands and the need for the exploration of nuclear technology programs. Yet, most Southeast Asian countries lacked oil and had limited hydroelectric power. During the height of the Cold War period, Southeast Asia was in a state of geopolitical flux. The region's problems were exacerbated by the U.S.'s involvement in Viet Nam, the growth of communism, and the region's underdevelopment. This acrimonious period gave rise to the establishment of ASEAN in August 1967, in hopes of serving as a new model for regional cooperation and economic dynamism.[28] The five original signatory countries were Indonesia, Malaysia, the Philippines, Thailand, and Singapore. This regional effort was a cornerstone to foreign policy, which attempted to thwart major players during this turbulent period.

While there was evidently a litany of challenges that ASEAN faced earlier on, the political security and ramifications of nuclear technology still remained an imminent issue. In 1971, the mandate of the ZOPFAN Declaration demanded that the Southeast Asian region "secure the recognition of and respect for Southeast Asia as [a] Zone of Peace, Freedom and Neutrality, free from any manner of interference by outside Powers."[29] The five foreign ministers, who signed ASEAN, were original signatories to ZOPFAN as well. This mandate held significant provisions to promote "world peace and security by reducing the areas of international conflicts and tension" and "cooperating with all peace freedom loving nations, both within and outside the region, in the furtherance of world peace, stability, and harmony."[30] Furthermore, the declaration was cognizant of the significant trend towards establishing nuclear-free zones, such as the Treaty for the Prohibition of Nuclear Weapons in Latin America, as well as the Lusaka Declaration proclaiming Africa a nuclear-free zone.[31] Thus, the campaign of "neutrality" and "world peace, stability, and harmony" provided a basis for ASEAN to undertake new responsibilities and to enhance its role in security issues."[32]

Around January 1975, the ASEAN Senior Officials (ASEAN-SOM) established the Working Group on ZOPFAN, and held its first meeting in Bangkok that following April. Since ASEAN's inception, it implemented the notion of neutralization by proposing steps to define what would constitute a violation of the Zone. The Working Group compiled a comprehensive 14-point report, Guidelines Constituting a Code of Conduct Governing Relations among States within the Zone and with States Outside of the Zone in Recognition and Respect for ZOPFAN.[33] The working group report, later known as the "Conceptual Framework of the ZOPFAN," was adopted at the First ASEAN Summit held in Bali in 1976.[34] In 1977, the ASEAN-SOM primarily focused on the denuclearization aspect of the "Conceptual Framework of the ZOPFAN."[35]

In Bali on February 24, 1976, the five original ASEAN signatory countries signed the Treaty of Amity and Cooperation (TAC) to "promote perpetual peace, everlasting amity and cooperation."[36] TAC's purpose was to focus on mutual respect, sovereignty, equality, territorial integrity, free from external interference, non-interference in internal affairs, settlement of disputes by peaceful means, renunciation of use of force, and effective cooperation. As a result of TAC, the High Contracting Parties established a High Council to not only uphold the agreement, but to resolve any disputes as well.[37]

Post-Cold War Era: South Korea's Burgeoning Role in Southeast Asia, and ASEAN's Efforts on the Southeast Asian Nuclear Weapon Free Zone Treaty

History of SEANWFZ Treaty and Regional Security Dilemmas with ASEAN

In the Second ASEAN Summit meeting at Kuala Lumpur in 1977, ASEAN foreign ministers discussed the logistics of the SEANWFZ Treaty. Members were conflicted, and couldn't decide whether SEANWFZ should be limited to its current members, or be opened to the whole Southeast Asian region, as noted in ASEAN's founding declaration, which allowed participation of all Southeast Asian countries. However, there were opposing views because in 1978 Viet Nam had invaded Cambodia. This invasion exacerbated the Indochina conflict, forcing ASEAN to be preoccupied with intraregional territorial disputes. In order to legitimize ASEAN's role in securing regional cooperation, ASEAN Foreign Ministers established ASEAN's Task Force in 1982. This Task Force aimed to "undertake a comprehensive review and appraisal of ASEAN cooperation," which also recognized the proposed denuclearization within the region.[38] Its recommendations called for:

a) intensifying collective actions on ZOPFAN among member countries;

b) widening consultations with other countries, especially those in the region; and

c) establishing a Nuclear Weapon-Free Zone in Southeast Asia.[39]

As a result of the Task Force's attention on nuclear issues, in 1983, the Working Group of ZOPFAN was reactivated, to "identify and elaborate the elements of ZOPFAN, [irrespective of the issue] in Kampuchea." Indonesia pushed forward a

working paper called, "Basic principles for arrangements on the establishing of a Nuclear Weapon-Free Zone in Southeast Asia." However, it took more than four years for the Drafting Committee on SEANWFZ to compile the first preliminary drafts of the Treaty in April and May of 1987, respectively.

In the Third ASEAN Summit meeting in Manila in December 1987, there were differences in garnering collective support for SEANWFZ. The summit claimed that each member state was "responsible for its own security and that cooperation on security matters shall continue on a "non-ASEAN basis" in accordance with their mutual needs and interests." Consequently, the second draft did not proceed further, and instead, the global nuclear stockpiles peaked close to 70,000 nuclear weapons.[40]

After the dissolution of the Soviet Union in 1991, the Fourth ASEAN Summit, held around January 1992, took note of the turbulent, international security predicament. The proliferation of nuclear weapons and strategic offensive arms between the United States and the Soviet Union remained a focal concern. This led to the signing of the Strategic Arms Reduction Treaty (START) between the United States and the Soviet Union in July 1991, which symbolized an effort to "eliminate all nuclear weapons and all strategic offensive arms."[41] As a result of Nuclear Weapon States' peaceful efforts, the Working Group on ZOPFAN and the Drafting Committee of SEANWFZ was consolidated and established as the "Working Group on ZOPFAN and SEANWFZ," to focus on the "renewed interest in nuclear non-proliferation as one of the real dividends of the ending of the Cold War."[42] Under the chairmanship of Indonesia, the draft was finalized before the signing of the Fifth ASEAN Summit.

At the Fifth ASEAN Summit on December 15, 1995, ten countries –Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam– signed the SEANWFZ Treaty to promote international peace and security as a key component under ZOPFAN, and to work towards disarmament of nuclear weapon and non-proliferation under the NPT. Although Viet Nam had just joined ASEAN, and Cambodia, Laos, and Myanmar (Burma) were not yet members of ASEAN, they were consulted before the signing. The signing has been heralded as a historical turning point because it showed ASEAN's efforts at regional cooperation, and the strengthening of its institutional efficacy. The parties were bound not to:

- develop, manufacture, acquire or have control over nuclear weapons;
- station or transport nuclear weapons by any means;
- test or use nuclear weapons; and
- allow in their respective territories any other state to do these acts.[43]

Additionally, the treaty addressed environmental concerns by requiring parties to not dump radioactive wastes "at sea or discharge into the atmosphere anywhere within the Zone, or on the land in the territory of the jurisdiction of other States." [44] Moreover, the

Treaty and its Protocols included the "continental shelves and Exclusive Economic Zones (EEZ)."[45] The Protocol was also open for signature by China, France, Russia, the United Kingdom, and the United States. It called upon the Nuclear Weapon States to respect the treaty, and not to take any actions that would violate the Treaty. They were not to "use or threaten to use nuclear weapons against any State Party to the treaty and not use or threaten to use nuclear weapons within the SEANWFZ."[46] The United States and France have yet to sign the protocols because of objections regarding the "unequivocal nature of security assurances and definitions of territory, like the EEZ."[47] Despite these differences –although, the core reason is lack of trust and confidence between the Nuclear Weapon States– the SEANWFZ clearly remains an essential, strategic contribution to Southeast Asia, as it entered into force on March 28, 1997. By the Sixth ASEAN Summit held at Ha Noi, Viet Nam on December 1998, members also focused on efforts to "address transnational crimes, such as terrorism" and "to intensify the consultations with the Nuclear-Weapon States with a view to their accession to the Protocol to the Treaty on SEANWFZ."[48]

The result of international and regional agreements to undertake nuclear weapons reduction led to a significant reduction in the world's arsenal. A significant international treaty, entitled the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, committed State Parties to "assure the total absence of nuclear weapons in their respective territories."[49] All Southeast Asian countries are parties to the NPT, except for Brunei and Cambodia, though "a signatory of the NPT in 1958, but curiously withdrew from the IAEA in 2003."[50] However, fears of nuclear weapons being lost in transition from the Soviet Union to Russia during the 1990s remain poignant. As mentioned earlier, START I aimed to deploy thousands of warheads, ICBMS, ballistic missiles and bombers. Similarly, the Treaty on the Further Reduction and Elimination of Strategic Offensive Arms (START II) aimed to "eliminate heavy intercontinental ballistic missiles (ICBMS) and other multiple-warhead (MIRVed) ICBM, while reducing the total number of strategic nuclear weapons deployed [by both United States and Russia]."[51] However, the imminence of a nuclear threat was still an urgent security issue. This is largely because the former Soviet Union poorly controlled and stored its nuclear weapons. There were even attempts to steal nuclear weapons, and many of these weapons today remain in unsecured storage facilities. Since the dissolution of the Soviet Union, it has been confirmed that there have been hundreds of successful thefts of nuclear materials.

Overview of South Korea's Investment in Southeast Asia

Economic interactions between South Korea and Southeast Asian countries have been ongoing since the mid-1980's. South Korea's investments focused on utilizing cheaper labor cost in Southeast Asia for "export production, as well as, using investment abroad as an effort to restructure Korea's domestic industries."[52] As a result, South Korea's federal direct investment brought more trade opportunities and further integration in the Southeast Asian region.[53]

However, the Asian financial crisis in 1997 thwarted this burgeoning relationship, which diminished the pool of overseas investments. By 2000, the economic relationship and interdependency between the two were renewed, but still weakened by China's emergence in the region. Nonetheless, trade and foreign investment became the vehicle for rapid economic growth, subsequently drawing an insatiable appetite for energy consumption to meet demand.

Throughout the past few decades, South Korea's economic involvement in Southeast Asia grew by leaps and bounds to ensure the success of development assistance overseas. Around the late 1980s, the Economic Development Cooperation Fund (EDCF) was established in 1987, offering "concessional loans to developing countries."[54] By 1991, the Korea International Cooperation Agency (KOICA) was founded to "provide grants and technical cooperation programs to developing countries."[55] Both programs, under the official development assistance (ODA), aimed at combating poverty, supporting sustainable development, and improving South Korea's advancements to developing countries.[56] Between 1987 and 2006, ASEAN became the largest region where South Korea invested over US $1.13 billion.[57] Furthermore, KOICA has granted 24.2% of its grants, amounting to $47 million to ASEAN members.[58] As shown in Table 1 below illustrating the Top 5 Asian Partners in 2006, South Korea, through KOICA, has directed a large share of its aid to ASEAN members.

Similarly, the EDCF has provided significant loans to ASEAN members, amounting to $897 million shown in Table 2.

Table 1

Top 5 Asian Partners of KOICA (2006)

Rank	Country	Amount	Percentage	
			Of KOICA's total budget	Of KOICA's budget for the region
1	Indonesia	17,650	9.1	24.5
2	Viet Nam	7,873	4.1	10.9
3	Sri Lanka	6,837	3.5	9.5
4	The Philippines	6,644	3.4	9.2
5	Cambodia	6,328	3.3	8.8
	Total	45,333	23.5	63.0

Source: Korean Institute for International Economic Policy, Yul Kown, Research Fellow of KIEP, "Korean Assistance to Southeast Asia: Seminar on Korea's Changing Role in Southeast Asia," March 20, 2008

Table 2				
EDCF to ASEAN Members (1987-2006)				
Rank	Country	Case	Amount (US $million)	Percentage
1	Indonesia	13	271.70	9.8
3	Viet Nam	10	227.96	8.1
6	Cambodia	6	159.29	6.4
7	Philippines	8	130/78	4.6
12	Myanmar	6	84.70	2.9
28	Laos	1	22.70	0.9
	Total	44	897.13	32.7
Source: Korean Institute for International Economic Policy, Yul Kown, Research Fellow of KIEP, "Korean Assistance to Southeast Asia: Seminar on Korea's Changing Role in Southeast Asia," March 20, 2008				

Through these bilateral efforts, South Korea continues to aspire for regional cooperation with ASEAN through strategic partnership, as well as sustainable development.

South Korea's Motivations Behind Developmental Aid

It is within this context that trade, development aid, and loans fueled the explosion of economic development in Southeast Asia. Yet strong demands for electricity to power Southeast Asia's thriving economy are unwaveringly high, which also creates demand for nuclear development as energy alternatives. Since 1991, South Korea has funneled KOICA grants to fund nuclear development programs in Southeast Asia. Moreover, from 1987 onwards, EDCF has also provided loans to Southeast Asian countries for industrial development and economic stability. Through development assistance, it is no coincidence that South Korea has played a prudent, strategic role in aiding nuclear programs within the region. This issue is often overlooked, which this section will illustrate the contours of current nuclear development in Southeast Asia.

Indonesian Nuclear Aspirations

Indonesia has demonstrated a strong interest in developing extensive nuclear power structures because the demand for electricity has grown so rapidly. Currently, the country has three research reactors, and two reactors are planned, and four more are proposed. The government has budgeted $8 billion for four nuclear plants for a total of 6 GWe to be in operation by 2025, trying to meet the goal of a "2% power demand from nuclear by 2017."[59] At the 2010 IAEA Conference, Indonesia noted that its population is continuing to grow, and that nuclear energy is a viable option to diversify its nuclear power options. However, there are public concerns regarding Indonesia's nuclear ambitions, and the government must take heed to ensure sufficient public acceptance.

Suharna Surapranata, the Minister for Research and Technology, claims that Indonesia is committed to supporting the role of the Asian Nuclear Safety Network (ANSN), and has hosted the Third Nuclear Safety Strategy Dialogue (NSSD). It continues to support the peaceful uses of nuclear energy under the IAEA

safeguards and international agreements. Indonesia's current nuclear ambitions are clear, and do not mirror the past. It wants to gain respect from the international community through civilian nuclear development. Therefore, Indonesia has a vested interest with foreign governments, such as Japan and Russia, to promote Indonesia's commercial interests, and to assist in any developments to ensure safety and non-proliferation.

Since early December 2007, President Susilo Bambang Yudhoyono has expressed keen interest to Roh Moo-Hyun in the peaceful use of nuclear energy. Roh Moo-Hyun responded positively, hoping that this could be "an opportunity to cooperate in the field of nuclear energy."[60] By July, the Indonesian' PT Medco Energi International struck a preliminary deal with South Korea's Korea Hydro and Nuclear Power (KHNP) to develop a four-reactor nuclear power plant in Java. This would be the first time that South Korean-designed OPR-1000 reactors are linked to this kind of planning, and two of the four reactors will have a generating capacity of 2000 MWe. Construction has been set to start in 2010 with completion in 2016. By 2025, a total of four reactors would potentially provide 4% of the country's electricity.[61]

The planning of the nuclear power plant on the Muria peninsula has been controversial, sparking social unrest across the archipelago. Muslim religious leaders, also known as ulemas, have issued a fatwa condemning a nuclear power plant. The ulemas acknowledged the benefits of nuclear energy, since the project aims to produce "1,000 megawatts of electricity to help meet rising demand from the country's 220 million people, as well as to avoid power shortages."[62] Ulema Hajj Kholilurrohman, the steering committee of Nahdlatul Ulama (NU), explained that the PLTN project would "certainly produce radioactive waste, and therefore the principles to avoid such loss must be prioritized."[63] Furthermore, the ulemas were concerned about the lack of financial clarity about the project, especially "if the development is based on a Build, Operate, and Transfer (BOT) model, because that would mean Indonesia will be left with an old and run-down nuclear power station, and must then pay for the cost of decommissioning."[64] But with aid coming from South Korea, Indonesia has become one of the top recipients of KOICA aid for the past 13 years, amounting to $22.1 million in assistance. As shown in Table 3, since 1992, South Korea has also financed nuclear expansion directly in Indonesia. Overall, Indonesia has made significant strides to eliminate nuclear proliferation and to promote peaceful civilian development of nuclear energy, but the only suspicion that remains is its nascent relationship with South Korea.

Table 3

KOICA Aid in Indonesia on Nuclear Power Plants (1992-2005)

Year	Project Name	Amount
1992	Nuclear Power Project Planning (IAEA)	4,038.47
1993	Nuclear Power Project Planning (IAEA) 10 People 2 People	4,128.00 4,128.00
1994	Industrial Application of Non-Destructive Testing 11 People 1 People	4,346.49
1995	Nuclear Power Project Planning (IAEA) 12 People 2 People	5,873.38 5,873.38
1996	System Technology for Nuclear Power Plant (IAEA) 18 People 2 People	4,997.30 4,991.58
1997	System Technology for Nuclear Power Plant (IAEA) 14 People 2 People	4,292.86 4,291.60
1998	Disposal of Low and Intermediate Level Waste (IAEA) 17 People 2 People	3,136.00 3,136.00
2000	Nuclear Power Reactor Technology (IAEA) 7 People 1 People	3,661.77
2001	IAEA Nuclear Power and Project Magt. 9 People 2 People	3,295.84 3,295.84
2002	KOICA-IAEA Training Course on Nuclear Power Planning & PM 4 People 2 People	3,046.62 3,046.62
2003	KOICA-IAEA Training Course on Nuclear Power Policy, Planning, and PM 5 People 2 People	3,753.71 3,778.88
	Korean Nuclear Power Technology 11 People 1 People	3,063.49
2004	Korean Nuclear Power Technology 4 People 2 People	2,684.13 2,657.92
	KOICA-IAEA Training Course on Nuclear Power Policy, Planning 3 People 1 People	3,958.99
2005	Nuclear Power Plants 4 People 2 People	4,352.94 4,315.54
	Nuclear Power Plants 6 People 2 People	4,145.50 4,182.91
	Nuclear Power Plants 15 People 5 People	4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16 4,365.16

Note: Information on 1999 is unavailable
Source: Indonesia, KOICA Aid Statistics by Year and Project

The Philippines' Nuclear Strides

In the Philippines, there is one research reactor and one reactor proposed. However, due to financial corruption and violation of safety regulations, the one completed power reactor (BNPP) was aborted. In 2007, the Department of Energy set up a project to reduce dependence on imported oil and coal. In 2008, the government asked the IAEA to determine if "the nuclear plant could be refurbished and economically and safely be operated for 30 years."[65] Additionally, the government wants to pursue "two further 1000 MWe Korean Standard Nuclear Plant units, using equipment from the aborted North Korean KEDO project."[66] However, the Philippines' attempts at nuclear development have clearly shown failure on two fronts: one, to properly manage its facilities; and two, to uphold safety regulations. In the IAEA 2010 Conference, Mr. Fortunato dela Pena, the Undersecretary for Science and Technology of the Philippines, addressed the challenges of nuclear safety and said that the government is committed to ensure that nuclear energy will be used for only peaceful purposes.[67] In October 2010, a US-based engineer company called Excel, tried to convince President Aquino that there are ways to rehabilitate the BNPP.[68] However, the Philippines' corruption problem is far too complex, and it has yet to prove to foreign investors and the international community that it can responsibly commit to the development process. This is reflected in how South Korea has aided the Philippines' nuclear development, as shown in Table 4.

Nonetheless, South Korea is expected to agree to conduct a feasibility study into reviving the Bataan nuclear power plant project in the Philippines.[69] In December 2008, the Korea Electronic Power Co (Kepco) signed a memorandum of understanding with the Philippines' National Power Corp (Napocor). Earlier that year, the IAEA brought an eight-person team to assess the feasibility of rehabilitating the Bataan nuclear power plant.[70]

Table 4

KOICA Aid in Philippines on Nuclear Power Plants (1992-2005)

Year	Project Name	Amount
1992	Nuclear Power Project Planning (IAEA) 5 People 1 People	4,038.47
1993	Nuclear Power Project Planning (IAEA) 2 People 2 People	3,516.46 3,516.46
1994	Industrial Application of Non-Destructive Testing (IAEA) 4 People 1 People	3,878.75
1995	Nuclear Power Project Planning (IAEA) 3 People 2 People	5,663.28 5,663.29
1996	System Technology for Nuclear Power Plant (IAEA) 12 People 1 People	4,594.21
1997	System Technology for Nuclear Power Plant (IAEA) 7 People 1 People	3,013.98
1998	Disposal of Low and Intermediate Level Waste (IAEA) 12 People 2 People	2,849.07 2,849.07
2001	IAEA Nuclear Power and Project Magt. 13 People 1 People	3,087.06
2002	KOICA-IAEA Training Course on Nuclear Power Planning & PM 3 People 1 People	2,870.08
2003	KOICA-IAEA Training Course on Nuclear Power Policy, Planning and PM 11 People 1 People	3,702.86
2005	Nuclear Power Plants 7 People 1 People	4,189.24

Note: Information on 1999, 2000, and 2004 are unavailable
Source: Philippines, KOICA Aid Statistics by Year and Project

Malaysian Nuclear Power

Malaysia has also expressed interest in nuclear power. Malaysia has one reactor, a 1 MWt Triga research reactor in operation since 1982; and Malaysia has recently regulated tougher export control laws to prevent the possibility of nuclear technology smuggling. Moreover, in August 2006, the Malaysian Nuclear Licensing Board stated that two reactors would be built soon. In 2008, Malaysia announced that it had "no option but to commission nuclear power due to high fossil fuel prices, and set 2023 as target date."[71] Early in 2010, the government said it had budgeted $7 billion funds for this program. In the 2010 IAEA Conference, it announced the launching of the 10th Malaysia Plan, which will take place from 2011 to 2015. This plan incorporates a new National Energy Policy, which has four pillars: "Increasing and Diversifying Generation Capacity; Strengthening Transmission and Distribution Networks, Restructuring the Electricity Supply Industry, and Improving Customer Service Delivery."[72] This extensive planning will enable the development of alternative sources of energy, which will further curb carbon emissions, thereby meeting higher energy demands.[73] The Malaysian Economic Council has also approved the Ministry of Energy to look into "identifying suitable sites for a nuclear power plant, with a startup date in the early 2020s."74 Peninsular Malaysia has been highly sought to become the destination where nuclear energy will be used for electricity generation. The support in technology and planning would most likely come from "South Korea, China, France or Japan."[75] But according to the Energy, Green Technology and Water Minister Datuk Seri Peter Chin Fan Kui, Malaysia's nuclear aspirations rest upon IAEA's final decision.[76] Even though Malaysia has a $7 billion budget to build a nuclear power plant, it still needs to ensure that this plant adheres to safety regulations, find human resources, meet environmental conditions, and choose a location. Some challenges Malaysia faces are public acceptance, international governance and regulatory development.

Table 5		
KOICA Aid in Malaysia on Nuclear Power Plants (1992-2003)		
Year	Project Name	Amount
1992	Nuclear Power Project Planning (IAEA) 4 People 1 People	4,038.47
1993	Nuclear Power Project Planning (IAEA) 12 People 2 People	3,821.48 3,821.48
1994	Industrial Application of Non-Destructive Testing 13 People 2 People	3,998.11
1995	Nuclear Power Project Planning (IAEA) 13 People 1 People	3,998.11 5,962.93
1996	System Technology for Nuclear Power Plant (IAEA) 5 People 2 People	5,071.29 5,071.29
1998	Disposal of Low and Intermediate Level Waste (IAEA) 18 People 2 People	2,944.63 2,944.63
2003	KOICA-IAEA Training Course on Nuclear Power Policy, Planning, and PM 16 People 2 People	3,642.54 3,667.71
Note: Information on 1997, 1999, 2000, 2001, and 2002 are unavailable Source: Indonesia, KOICA Aid Statistics by Year and Project		

Viet Nam's Nuclear Success

Viet Nam is also interested in nuclear power to further its industrial growth. Many foreign companies are particularly interested in Viet Nam's thriving economy, and are promoting commercial interests as well as cooperative arrangements in nuclear generation. Such countries that have already signed agreements with Viet Nam are the United States, Russia, France, and South Korea. [77] Viet Nam has one research reactor, with two more reactors in development. The first reactor would be located at Phuoc Dinh in the southern Ninh Thuan province and will come into operation by 2020. The second reactor will be constructed at Vinh Hai in the Ninh Hai district. By 2030, these plants will follow by a further "6000 MWe, and increase to having a total of 15,000 MWe. Eight more are now being proposed."[78] During the 54th Annual IAEA Conference this year, Dr. Le Dinh Tien, the Vietnamese Deputy Minister of the Ministry of Science and Technology, discussed Viet Nam's cooperation with the IAEA, and that Viet Nam has made great efforts to meet international initiatives by promoting peaceful uses of nuclear energy and non-proliferation. For example, Viet Nam actively participated in the International Conference on Access to Civil Nuclear Energy in Paris last March, and the Nuclear Security Summit in Washington last April. Furthermore, Viet Nam signed the Convention on Nuclear Safety, and supported the Global Initiative to Combat Nuclear Terrorism. Through these dedicated international efforts, it is evident that Viet Nam can use nuclear energy to rise peacefully.[79]

Table 6		
KOICA Aid in Viet Nam on Nuclear Power Plants (1992-2005)		
Year	Project Name	Amount
1992	Nuclear Power Project Planning (IAEA) 6 People 1 People	4,038.47
1993	Nuclear Power Project Planning (IAEA) 5 People 1 People	3,843.78
1994	Industrial Application of Non-Destructive Testing 6 People 1 People	4,114.45
1995	Nuclear Power Project Planning (IAEA) 7 People 2 People	6,393.28 5,998.07
1996	System Technology for Nuclear PowerPlant (IAEA) 3 People 3 People	5,054.71 5,054.71 4,988.85
1997	System Technology for Nuclear Power Plant (IAEA) 2 People 1 People	4,335.12
2000	Nuclear Power Reactor Technology (IAEA) 12 People 2 People	4,123.47 4,123.47
2001	IAEA Nuclear Power and Project Magt. 17 People 1 People	3,507.25
2003	Korean Nuclear Power Technology 4 People 2 People	3,162.75 3,150.25
2004	Korea's Nuclear Power Technology and Project Management 14 People 14 People	2,961.13 2,961.13 2,961.12 2,961.13 2,961.13 2,961.12 2,961.12 3,004.80 2,961.13 2,961.13 2,961.12 2,961.12 2,961.13 2,961.13
	KOICA-IAEA Training Course on Nuclear Power Policy, Planning 9 People 1 People	3,837.38
2005	Nuclear Power Plants 9 People 3 People	4,154.36
		4,191.77
		4,154.36
Note: Information on 1998 and 1999 are unavailable Source: Viet Nam, KOICA Aid Statistics by Year and Project		

Thailand's Eager Nuclear Plans

Thailand is the most recent country to publicly announce its intention to pursue nuclear development. In a statement by H.E. Mrs. Nongnuth Petcharatana, the Ambassador of Thailand to the IAEA at the 54th General Conference of the IAEA on September 2010, Thailand is moving to implement the National Power Development Plan (PDP 2010) which includes 5,000 mega watts of nuclear power,

and the Nuclear Power Infrastructure Establishment Plan (NPIEP). Thailand seeks the IAEA's assistance through the Integrated Nuclear Infrastructure Review (INIR), and hopes to embark on nuclear power development by the end of this year.[80] The Thai government also hopes to establish safety and regulatory infrastructure by 2014.[81] At the 2009 IAEA Conference, Mrs. Nongnuth Petcharatana stated that "Thailand needs to strive for diversification of energy types and supply sources, and one of the choices is nuclear energy."82 Indeed, Mrs. Nongnuth's concerns about energy resources are challenges faced throughout Southeast Asia today.

Table 7

KOICA Aid in Viet Nam on Nuclear Power Plants (1993-2005)

Year	Project Name	Amount
1993	Nuclear Power Project Planning (IAEA) 4 People 1 People	3,621.36
1994	Industrial Application of Non-Destructive Testing 5 People 1 People	4,035.88
1995	Nuclear Power Project Planning (IAEA) 5 People 2 People	5,640.91 5,640.91
1996	System Technology for Nuclear Power Plant (IAEA) 10 People 2 People	4,749.59 4,749.59
1997	System Technology for Nuclear Power Plant (IAEA) 1 People 1 People	3,853.79
1998	Disposal of Low and Intermediate Level Waste (IAEA) 5 People 2 People	2,905.46 2,905.46
2001	IAEA Nuclear Power and Project Magt. 14 People 1 People	2,966.98
2002	KOICA-IAEA Training Course on Nuclear Power Planning & PM 18 People 2 People	2,796.39 2,796.39
2004	Korean Nuclear Power Technology 8 People 1 People	3,839.04
2005	Nuclear Power Plants 9 People 2 People	4,077.79 4,115.19

Note: Information on 1999, 2000, and 2003 are unavailable
Source: Thailand, KOICA Aid Statistics by Year and Project

Burma (Myanmar) Suspicious Plans

Out of all the Southeast Asian countries, Burma lacks transparency, and the technological and financial means to develop nuclear weapons or capabilities.[83] There have also been rumors that Burma has been receiving secret nuclear assistance from North Korea, and the revelation of the government's construction of a secret nuclear reactor near Minbu, Magwe Division.[84] There is also an unobserved, yet interesting trend that South Korea has been providing KOICA aid to build Burma's nuclear power plants. Illustrated in Table 8, South Korea has funneled aid to Burma since 1992, with 2004 accounting for the greatest amount. There is no question that there may be a quiescent program between the two.

Table 8		
KOICA Aid in Viet Nam on Nuclear Power Plants (1992-2005)		
Year	Project Name	Amount
1992	Nuclear Power Project Planning (IAEA)	4,038.47
1993	Nuclear Power Project Planning (IAEA) 10 People 2 People	4,128.00 4,128.00
1994	Industrial Application of Non-Destructive Testing 11 People 1 People	4,346.49
1995	Nuclear Power Project Planning (IAEA) 12 People 2 People	5,873.38 5,873.38
1996	System Technology for Nuclear Power Plant (IAEA) 18 People 2	4,997.30 4,991.58
1997	System Technology for Nuclear Power Plant (IAEA) 14 People 2	4,292.86 4,291.60
1998	Disposal of Low and Intermediate Level Waste (IAEA) 17 People 2 People	3,136.00 3,136.00
2000	Nuclear Power Reactor Technology (IAEA) 7 People 1 People	3,661.77
2001	IAEA Nuclear Power and Project Magt. 9 People 2 People	3,295.84 3,295.84
2002	KOICA-IAEA Training Course on Nuclear Power Planning & PM 4 People 2 People	3,046.62 3,046.62
2003	KOICA-IAEA Training Course on Nuclear Power Policy, Planning, and PM 2 People 2 People	8,017.30
2004	KOICA-IAEA Training Course on Nuclear Power Policy, Planning 2 People 2 People	8,290.97
2005	Nuclear Power Plants 1 People	4,643.94
Source: Myanmar, KOICA Aid Statistics by Year and Project		

Conclusion and Recommendations

Forecasting Southeast Asian nuclear security shows that the region will continue to rely heavily on South Korea. South Korea has set to become "a major world nuclear energy country as a priority."[85] As a significant proponent of developing civilian nuclear programs, South Korea already has 21 power reactors providing 40% of its electricity.[86] South Korea's substantial and highly competent scientific and technical infrastructure is one of the largest nuclear programs in the world. President Lee Myung-bak declared, "Nuclear power-related business will be the most profitable market after automobiles, semiconductors and shipbuilding. We will promote the industry as a major export business."[87] This emphasis raises concerns about South Korea's plans to accelerate the pace of nuclear development

within its region. Yet South Korea aims to safely carry this vision into the 21st century through the Korean Institute of Nuclear Nonproliferation and Control (KINAC), a specialized agency to implement nuclear control through proper inspection.[88]

However, regional countries with nuclear power and/or nuclear weapons capability –such as, Japan, China (and Taiwan), North Korea, South Korea, Burma, India, Pakistan, Bangladesh– have a disconcerting influence on ASEAN's institutional role. China currently has 13 nuclear power reactors in operation, and 25 that are under construction. China's demand for energy has raised issues in power shortages, and it, therefore, heavily relies on fossil fuels. As a result of China's rapid industrial development, it has a preponderant role in the international political arena. It has strong relations with North Korea, and dangles financial support to Pyongyang. These murky relations are unclear, which begs the question as to the nuclear ambitions of both countries, especially North Korea. After Pyongyang's first nuclear test in October 2006, this incident sent bitter shockwaves across the international community and its efforts to uphold peace and security. Currently, the most salient issue within the region is Burma's lurid ties with North Korea. Although Burma is a party to ASEAN, SEANWFZ, and the NPT, the military junta has embarked on a small research reactor, and has solicited support from North Korea. At the July 2009 ASEAN summit in Thailand, US Secretary of State Hillary Clinton expressed anxiety about North Korea's and Burma's pursuit of offensive weapons, and perhaps even nuclear weapons later.[89] In 2003, the Burmese military began clandestine dealings with North Korean Namchongang Trading Company for North Korean missiles and nuclear materials, and with the Daesong Economic Group, an alleged exporter of sensitive North Korean missile weapon technologies.[90] Speculations between the two countries on nuclear technology exchange have thus raised imminent concerns in ASEAN, which currently poses as one of the most complex dilemmas in the region.

As a result of these current issues, Southeast Asian governments have heavily relied on ASEAN to uphold international treaties, as well as to transcend the regional interests of Southeast Asia to the international community. ASEAN has not only strengthened and improved ways for compliance, but has also served mechanisms to foster trust and dialogue about nuclear energy. The Southeast Asian governments have already shown many ways for the international community to trust their commitment to peaceful usage in civilian nuclear energy. However, only Burma and the Philippines remain questionable due to their respective issues. Furthermore, there are concerns that even though Southeast Asian governments are signatories to the NPT and SEANWFZ, they may simply resign (i.e., North Korea) from its treaty obligations and embark on nuclear weapons development. Despite these fears, there are studies that recommend that ASEAN should establish an Asian version of the 1957 European Atomic Energy Community (EURATOM) Treaty.[91] EURATOM was conceived to "look into nuclear energy as a means of overcoming power shortfalls, so that founding states [can] develop nuclear power generation capacity."[92] Furthermore, the treaty forbids nuclear materials intended for civilian use will be diverted to military use. Therefore, EURATOM would be a model for ASEAN

to consider developing in the future, while dealing with South Korea's nuclear bilateral programs. This way, ASEAN can further show to the international community, vis-à-vis Nuclear Weapon States, that its Southeast Asian member nations can fully commit to agreements and treaties in their use of nuclear energy for peaceful purposes.

References

1. Andrew Symon, "Southeast Asia's Nuclear Power Thrust: Putting ASEAN's Effectiveness to the Test?", Contemporary Southeast Asia, Vol. 30, No. 1 (2008).
2. Ibid.
3. Harvey Wasserman and Amy Wainer, "Nuclear Power to the Pacific," Environment, Vol. 18, No.9 (1976), Ebsco (2003). P21.
4. Office of Atoms for Peace. 2009. Office of Atoms for Peace. Ministry of Science and Technology. 04 Dec. 2010. Can be Viewed at <http://www.oaep.go.th/index_en.php>
5. Harvey Wasserman and Amy Wainer.
6. Ibid, P22.
7. Ibid, P23.
8. About Us | Atoms for Peace Philippines. 2010. Philippines Atoms for Peace. 30 Nov. 2010. Can be Viewed at <http://atomsforpeacephil.com/content/about-us>.
9. David Fischer, "History of the International Atomic Energy Agency – The First Forty Years," International Atomic Energy Agency, Vietnam: The Agency (1997), P13. Can be Viewed at <http://www.pub.iaea.org/MTCD/publications/PDF/Pub1032_web.pdf>.
10. PNRI in Brief. 2004. Philippine Nuclear Research Institute, Department of Science and Technology. 04 Dec 2010. Can be Viewed at <http://www.pnri.dost.gov.ph/pnri.php?pnri=about>.
11. Julietta E. Seguis, "Current Status of the System of Accounting for and Control of Nuclear Materials in the Philippines," Philippine Nuclear Research Institute, IAEA-SM-367/12/10. Can be Viewed at <http://www.pub.iaea.org/MTCD/publications.PDF/ss…/Paper%2012-10.pdf>.
12. Fischer, P145.
13. Seguis.
14. Philippines Atoms for Peace.
15. Symon.
16. Luong Ba Vien, "Technical Meeting on the 'Research Reactor Decommissioning Demonstration Projection: Transition Phase'; Operation Status of Dalat Nuclear Research Reactor and Decommissioning Planning", Nuclear Research Institute, Vietnam Atomic Energy Commission (VAEC), Australia (12-16 November 2007), P8.
17. Ibid.
18. Luong Ba Vien, P8.
19. Luong Ba Vien, P5.
20. Symon.
21. Ibid.
22. Luong Ba Vien, P8.
23. Symon.
24. Luong Ba Vien, P9.
25. Sulfikar Amir, "Nuclear Revival in Post-Suharto Indonesia", Asian Survey, Vol 60, Number 2 (2020), P265-286.
26. Ibid.
27. Wasserman and Wainer, P19.
28. Selo Soemardjan & Estrella D. Solidum, "The Role of Certain Sectors in Shaping and Articulating the ASEAN Way," in R.P. Anand & Purification V. Quisumbing (eds.), ASEAN: Identity, Development and Culture (Manila: UP Law Center and East-West Center Culture Learning Institute, 1981), P. X.

29. "Zone of Peace, Freedom and Neutrality Declaration", Malaysia, 27 November 1971.
30. Ibid.
31. M.C. Jr. Abad, "A Nuclear Weapon-Free Southeast Asia and its Continuing Strategic Significance", Contemporary Southeast Asia, Vol. 27, No. 2 (2005), P168.
32. Zone of Peace, Freedom and Neutrality Declaration", Malaysia, 27 November 1971.
33. Ibid.
34. Ibid.
35. Ibid.
36. "Treaty of Amity and Cooperation in Southeast Asia", Bali, 24 February 1976.
37. Ibid.
38. Ibid.
39. Ibid.
40. M.C. Jr. Abad, P169.
41. Strategic Arms Reduction Treaty (START I). Federation of American Scientists. 5 Dec 2010. Can be Viewed from < http://www.fas.org/nuke/control/start1/index.html>
42. Abad, P170.
43. Ibid.
44. Ibid.
45. Ibid, P171.
46. "Southeast Asia Nuclear-Weapon-Free Zone Treaty (Treaty of Bangkok)", Inventory of International Nonproliferation Organizations and Regimes. James Martin Center for Nonproliferation Studies, 12 June 2009.
47. Ibid.
48. "Ha Noi Declaration of 1998", Ha Noi Vietnam. 16 December 1998. Can be Viewed at < http://www.aseansec.org/8752.htm>
49. Abad, P174.
50. Symon, P131.
51. Strategic Arms Reduction Treaty (START II). Federation of American Scientists. 5 Dec 2010. Can be Viewed from <http://www.fas.org/nuke/control/start2/index.html>
52. Steinberg, David I. "Korea's Changing Roles in Southeast Asia: Expanding Influence and Relations."
53. Steinberg, 35. Koh.
54. Steinberg. 156. Yul Kown.
55. Steinberg. 156. Yul Kown.
56. Steinberg, Kwon. 160.
57. Korea Institute for International Economic Policy. Yul Kwon. Korea's ODA in Southeast Asia.
58. Ibid.
59. World Nuclear Association.
60. "Indonesia Makes Nuclear Friends." World Nuclear News. 11 Jan. 2007. 1 May 2011. Can be Viewed at < http://www.world-nuclear-news.org/newsarticleaspx?id=12582&terms=indonesia%20makes%20nuclear%20friends>.
61. "Indonesia Strengthens South Korean Connection." World Nuclear News. 27 July 2007. 29 Apr. 2011. Can be Viewed at < http://www.world-nuclear-news.org/newsarticle.aspx?id=13782&LangType=2057&terms=indonesia%20strengthens%20south%20korean%20connection>.
62. "Indonesian Clerics Say Nuclear Power Plant Forbidden." Reuters. 03. Sept. 2007. Can be Viewed at <http://in.reuters.com/article/worldNEWS/idINIndia-29307620070903?s=true> .
63. "Nahdlatul Ulama Forbids Nuclear-Powered Electricity Generator." 03. Sept. 2007. Sohirin. Source Unkown.

64. Tanter, Richard. “Nuclear Fatwa: Islamic Jurisprudence and the Muria Nuclear Power Station Proposal.” Austral Policy Forum. 13 Dec. 2007.

65. Ibid.

66. Ibid.

67. Ibid.

68. Donnabelle L. Gatdulla, “US Nuclear Engineering Firm Offers to Rehabilitate BNPP”, PhilStar.com (11 Oct 2010). Can be Viewed at < http://www.philstar.com/Article.aspx?articleid=619739>

69. “South Korea Offers Help to Jordan, Philippines.” World Nuclear News. 02 Dec. 2008. Web. 20 Mar. 2011. Can be Viewed at <http://www.world-nuclear-news.org/NP-South_Korea_offers_help_to_Jordan_and_Philippines-0212084.html>.

70. Ibid.

71. Symon.

72. “Statement by Dr. Daud Mohamad, Director General Malaysian Nuclear Agency, Head of Delegation of Malaysia to the 54th Regular Session of the General Conference of the International Atomic Energy Agency (IAEA)”, Vienna, Austria, 1st September 2010.

73. Ibid.

74. Ibid.

75. “Govt Gives Go-Ahead for Nuclear Power Plant by 2021.” The Star Online. 4 May 2010. 21 Mar. 2011. Can be Viewed at <http://thestar.com.my/news/story.asp?sec=nation&file=/2010/5/4/nation/20100504145101>

76. Ibid.

77. Symon, P127.

78. “Asia’s Nuclear Energy Growth | Nuclear Power Development in Asia”, World Nuclear Association. Can be Viewed at < http://www.world-nuclear.org/info/inf47.html>

79. “Statement by H.E. Dr. Le Dinh Tien, Deputy Minister of the Ministry of Science and Technology, Head of the Delegation of Viet Nam to Fifty-fourth Regular Session of the General Conference of the International Atomic Energy Agency”, Vienna, Austria, 20-24 September 2010. Can be Viewed at < www.iaea.org/About/Policy/GC/GC54/Statements/vietnam.pdf>

80. “Statement by H.E. Mrs. Nongnuth Petcharatana Ambassador, Permanent Representative of Thailand to the International Atomic Energy Agency, Head of the Thai Delegation at the 54th Regular Session of the General Conference of the IAEA”, Vienna International Centre, Vienna. 23 September 2010. Can be Viewed at < www.iaea.org/About/Policy/GC/GC54/Statements/thailand.pdf>

81. Symon, P125.

82. Vienne International Center.

83. Lintner, Bertil. “Deception and Denials in Myanmar.” AsiaTimes Online. 30 Jun. 2010. Web. Can be Viewed at <http://www.atimes.com/atimes/Southeast_Asia/LF30Ae01.html>

84. Stricker, Andrea. “U.S. Government Keeps Watch over Burma’s Nuclear Program.” Institute for Science and International Security. 14 Dec. 2010.

85. “Nuclear Power in South Korea.” World Nuclear Association. Mar. 2011. Can be Viewed at <http://www.world-nuclear.org/info/inf81.html>

86. Ibid.

87. “South Korea Seeks to Boost Reactor Exports.” World Nuclear News. 13 Jan. 2010. 8 June 2011. Can be Viewed at <http://www.world-nuclear-news.org/newsarticle.aspx?id=26865&terms=south%20korea>.

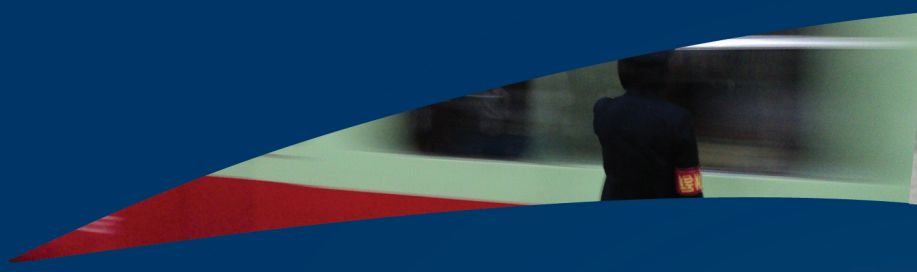
88. “KINAC Safeguards Division.” Korean Institute of Nuclear Nonproliferation and Control. 20 Nov 2011. Can Be Viewed at < http://www.kinac.re.kr/english/business/safe.asp>

89. Mun Suk Ahn. “The North Korea-Myanmar Relationship: A Historical Perspective.” Bulletin of the Atomic Scientists. May/ June 2010. Vol 66. No.3, P30-37: P30.

90. Ibid, P31.

91. Symon, P134.

92. Ibid, P135.



EMERGING VOICES ON KOREA SYMPOSIUM

NEW TRENDS IN NORTH KOREA

Nothing to be Afraid Of?: North Korean Political Economy and Economic Reform
Ian Rinehart, George Washington University

North Koreans Have Cell Phones
Peter Nesbitt, Georgetown University

Selling North Korea in New Frontiers: Profit and Revolution in Cyberspace
Jane Kim, Johns Hopkins University SAIS

KOREA'S DOMESTIC POLICIES AND THEIR INFLUENCE ON ASIA

South Korean National Identity and its Strategic Preferences
Andrew Kim, Princeton University

Agencies, Roles and Their Choices Shown in the Reform of the Korean Legal Profession from 1995 to 2007
Yukyong Choe, University of California, Berkeley School of Law

Aligned but not Allied: ROK-Japan Bilateral Military Cooperation
Jiun Bang, University of Southern California

The Dollar Influence in East Asia: Benevolent or Overbearing? A Comparative Answer in the U.S. Economic Aid and the Dollar Standard
Gloria Koo, University of Southern California

KOREA: ENERGY AND ECONOMY

Another Energy Competition in Northeast Asia: Coal Policies of South Korea and Japan in Comparative Perspective
Eunjung Lim, Johns Hopkins University SAIS

South Korea's Nuclear Development Assistance in Southeast Asia: The Implications and Challenges of the Security Environment in the 21st Century
Lisa He, Georgetown University

The Role of Capital Controls in Emerging Market Economies: A Study of the Korean Case, 1997-2011
June Park, Boston University

KIEP

KEI KOREA ECONOMIC INSTITUTE
한 미 경 제 연 구 소

1800 K Street, NW
Suite 1010
Washington, DC 20006