



**PMANE &
NAAM WRITE
TO AMERICA
OVER US
REACTORS**
Page 10



**JAPAN TO USE
FOREIGNERS
IN FUKUSHIMA
CLEAN-UP**
Page 7



**URANIUM
CONTAMINA-
TION IN WATER
IN INDIA IS
HIGH**
Page 9

NUCLEAR FREE INDIA

A COLLECTIVE NEWSLETTER

APRIL 2019

VOL II-ISSUE 1

**47 TIMES FAILURE
KODANKULAM NUCLEAR
POWER PLANT UNUSUAL**

DAE ACCEPTS

PAGE 16



33 YEARS OF CHERNOBYL DISASTER

**A TERRORIST ATTACK
BY THE USUAL SUSPECTS**

Lessons for upcoming generations

PAGE 12

LETTER FROM THE TEAM

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DEAR ANTINUCLEAR FRIENDS from around the world

Greetings! In 2009 some of us here in India managed to bring all different anti-Uranium mining, anti-reactor and anti-bomb groups from all over India for a three-day consultation and we founded the National Alliance of Anti-nuclear Movements (NAAM). The NAAM has been holding periodic meetings ever since and the latest one took place in Bhopal in October 2018.

Right after the Fukushima accident in March 2011, people in the southern tip of India came together to oppose the KKNPP. The struggle committee members were holed up in a coastal village, Idinthakarai, for two and a half years with tens of thousands of fisherfolks, farmers, women and youth. Our struggle was described as the longest and largest non-violent struggle after India's national fight for independence.

The Indian State that has been signing indiscriminate nuclear agreements with Russia, US, Japan, France, Australia, South Korea, Kazakhstan, Namibia etc. does not take our genuine and valiant struggle lightly. They call us anti-national, seditious, radical leftists, secessionists, foreign-stooges, foreign-funded etc. They have foisted roughly 380 cases on us including 20 sedition cases and 20 'waging war on the State' cases that carry death penalty as possible punishment if convicted.

Although the provincial police, and the provincial and the central intelligence agencies have managed to undermine our protests, we have been keeping up the struggle through educating political and civil society leaders, campaigning on the streets, participating in TV debates, convening press conferences, writing articles and letters in newspapers, carrying out train tour campaigns and so on.

The first reactor of the KKNPP was commissioned on July 13, 2013 but it has been shut down more than 45 times so far. The second unit was commissioned on July 10, 2016 and this reactor has been shut down quite a few times also. Both these units have had boiler issues, turbine troubles, valve problems and all kinds of other glitches and hiccups.

The Government of India along with its Department of Atomic Energy (DAE) and the Nuclear Power Corporation of India Ltd. (NPCIL) has been persisting with these faulty reactors by hiding all the hardships because any acknowledgement of difficulty or trouble would derail their entire nuclear dream. The various nuclear projects in the pipeline would be opposed vigorously and the bomb project would be challenged seriously. The large-scale corruption in the nuclear department, use of sub-standard parts and all other issues would be exposed. Consequently, our repeated demand for a White Paper on the KKNPP has been completely ignored by the Indian State.

LETTER FROM THE EDITOR

In fact, units 3 & 4 and 5 & 6 are being added on a war-footing. The Indian government is also planning several mega nuclear power parks along the 7,500-km long coastline and in many interior locations also. To supply sufficient Uranium for all these indigenous and imported reactors, the government is setting up several mining projects also.

Right now, nuclear power contributes hardly 3 percent to the electricity pool in India with 22 units in 7 locations. This is not likely to go up anytime in the near future. Besides squandering our scarce national resources on highly expensive nuclear reactors imported from Russia, France and the United States etc., the Indian government seems to be keen on propping up foreign countries' economies rather than working for our own people. The government spends exorbitant amounts on imported reactors, dilutes our own liability act, reveals hardly any details to the public, and compromises on the safety and security of our own citizens.

The United States and other countries have helped India join the Nuclear Suppliers Group (NSG), and sign nuclear safeguards agreement with the International Atomic Energy Agency (IAEA) etc. for their own (nuclear) business gains. As a result of all these, the Non-Proliferation Treaty (NPT) and other international nuclear treaties stand compromised and even threatened. It is ludicrous to hold that some countries such as Iran and North Korea should not develop nuclear power but others like India and Pakistan could. Now Brazil, Bangladesh, Egypt, the UAE and many other countries are beginning to set up nuclear power plants and if the trend continues like this, fissile material may become readily available in the open market. Nuclear terrorism is fast becoming a stark reality.

Nuclear bomb continues to be a credible threat to the survival of our planet and the well-being of all the peoples and other beings. But there is hardly any debate or discussion in international forums or summit meetings of world leaders. Even in the recent biannual conference of the International Peace Research Association (IPRA), there was hardly any mention of the word 'nuclear' except in my talk. Many researchers and scholars could not get Indian visa to attend that meeting.

Similarly, the No Nukes Asia Forum (NNAF) members had difficulty in getting the Filipino visa for a meeting of the group in that country. Right-wing groups and governments around the world abhor any discussion on the nuclear issue. The American president Donald Trump has recently cancelled the landmark Intermediate-range Nuclear Forces (INF) Treaty in order to be able to counter the Chinese arms build-up in the Pacific.

To put it tersely, nuclear things are getting out of hand. And we need to reinvigorate all the various national, regional and international anti-nuclear groups and movements here and now. We all need to discuss the nuclear issues more earnestly and devise clear strategies to create a nuclear-free world. One immediate step could be putting pressure on the national governments and the United Nations to hold the recently-postponed 'High-Level Conference on Nuclear Disarmament' without any further delay.

Looking forward to hearing more from you on these issues, we send you our best personal regards and all peaceful wishes.

Cordially,

The NAAM Coordinators



Koodankulam Nuclear Power Plant On Streets !

On 11 th March 2019, Koodankulam Nuclear Power Plant Units 3-4 Parts (seems to be a pressure vessel) which were being transported from Russia to Koodankulam were found on the streets of Tirunelveli District in Tamilnadu

12 MORE NUCLEAR PLANTS IN INDIA : DAE CHIEF

India will have 12 more nuclear power stations shortly to improve the power situation and also ensure there is a free flow of uninterrupted power supply for both Industries and residential usage, said K. N. Vyas, Secretary, Department of Atomic Energy and Chairman, Atomic Energy Commission, India at the International AtomExpo at Sochi in Russia held recently.

INDIA, US AGREE TO BUILD 6 AMERICAN NUCLEAR PLANTS IN INDIA

The agreement came after two days of talks in Washington. "They committed to strengthen bilateral security and civil nuclear cooperation, including the establishment of six U.S. nuclear power plants in India," the joint statement said. It gave no further details of the nuclear plant project.



Mountain of black bags filled with contaminated soil in Fukushima. Fukushima Cleanup would take 40 massive years.



Chakra III, purportedly the Russian Navy's K-322 Kashalot (Akula II-class)

Photo News : India and Russia are expected to conclude an intergovernmental agreement for a 10-year lease of a Russian nuclear-powered attack submarine deal, estimated to be worth around \$3 billion

FINDING SOLUTIONS

'JAITAPUR POWER PLANT' - MAHARASTRA'S ENVIRONMENTAL CONCERN FOR ELECTIONS

In the past few years, Jaitapur has witnessed several violent protests against the nuclear plant. The government has already completed the land acquisition of over 950 hectares of land and currently, the digging work is on. Six reactors, each of 1,650 megawatt, totalling to 9,900 MW are scheduled to be built there.

a staunch opponent of the project, said that the project would

prove disastrous for the aquatic and marine life as processed water will be released in the sea which will increase the temperature of sea water.

The plant will require a large quantity of water every day to cool the nuclear radioactive material. Around 15,000 fishermen are likely to be affected by the project

MARKET

JAPAN AIMS TO HIRE FOREIGNERS FOR NUCLEAR CLEANUP



An employee of TEPCO (in blue) gives instructions to another worker in front of the No. 3 reactor building at the Fukushima Daiichi nuclear power plant in this Feb 18

Japan's largest utility is looking to foreign blue-collar workers to help decommission its Fukushima Daiichi nuclear-power plant amid a labor shortage exacerbated by radiation risks at the site of the 2011 nuclear disaster.

Tokyo Electric Power Co - Tepco, said Thursday it has informed dozens of contractors that foreigners could qualify for a new type of visa that allows manual workers to stay in the country for five years. Workers who enter areas with elevated radiation would need sufficient Japanese-language skills

FINANCES

INDIA'S KUDANKULAM NUCLEAR POWER STATION MEANS BIG DEBT TO RUSSIA

Inadequate budgetary support to the strategic nuclear energy sector over the last two financial years has squeezed funds earmarked under the investment head for the Nuclear Power Corporation of India Limited (NPCIL), resulting in India's frontline nuclear utility slipping back on its repayment obligations to the Russians for equipment supplies to the Kudankulam nuclear project.

According to official estimates, while budgetary support to NPCIL had gone up from Rs 370 crore in the budget estimate for 2017-18 to Rs 1435 crore in the revised estimate for the year (entailing a total of Rs 685 crore under the investment head and Rs 750 crore as loan), the actual requirement in form of budgetary support submitted by the DAE was thrice that amount — Rs 4305 crore.

The higher amount, official said, was primarily on account of a shortfall of earlier years in receipt of equity to the tune of Rs 402 crore and obligations under the Russian Credit of Rs 3,903 crore.

For 2018-19, while the allocation was hiked to Rs 1,665 crore in the budget estimate, it still left a funding gap of around Rs 2,870 crore, according to DAE estimates.



Image of Rafale aircraft | Dassault-Aviation.com



Photo News : Images show building of first Saudi nuclear reactor - expert

HIDDEN

INDIA FAVOURED RAFALE ALSO BECAUSE OF ITS 'NUCLEAR ADVANTAGE'

Modi government's decision to buy 36 Rafale fighter jets from France for 7.87 billion Euros was also influenced by the fact that it could be easily enabled to carry a nuclear payload, Rakesh Sood, a former Indian ambassador to France and strategic affairs expert, has said.

One key reason why India picked the Rafale over the Eurofighter Typhoon is because the French were accepting of the idea that the Rafale would become a part of the air segment of India's nuclear triad,

"One reason for the political decision in favour of France's Rafale was because the French had no problem with the Rafale being modified to carry a nuclear payload," Sood said.

Dassault Aviation, the company which manufactures Rafale, credited Rafale as its financial saviour from its near bankruptcy

'RECKLESS RHETORIC' COALITION FOR NUCLEAR DISARMAMENT AND PEACE CONDEMNS MODI'S DIWALI NUKE REMARK

CNDP - India's national network of over 200 organisations, including grass-roots groups, mass movements and advocacy organisations, and individuals — which demands that India and Pakistan roll back their nuclear weapons programmes, has taken cognisance of Prime Minister Narendra Modi's remarks in an election rally mentioning use of nuclear weapons.

Modi while addressing a public meeting in Rajasthan had said that earlier strategic experts used to warn that Pakistan had the nuclear button, but, he stressed that India also has the capability to launch nuclear attacks from land, air and sea. "What do we have then? Have we kept our nuclear bomb off Diwali?" Modi remarked.

PMANE and NAAM endorse the CNDP's statement on PM's dangerous statement on nuclear weapons!



Iran has resumed talks with Russia to build a new nuclear power plant capable of generating up to 3,000 megawatts of electricity



Blisters that spread due to water contamination in Tummalapalle, Andhra-pradesh District



The livestock in the village has been dying in large numbers. They are unable to walk properly due to weak bones, due to radiation



Drinking and irrigation water across 16 states in India is highly contaminated with uranium, which is way above than World Health Organisation's (WHO) permissible limit of 30 micrograms of uranium per litre



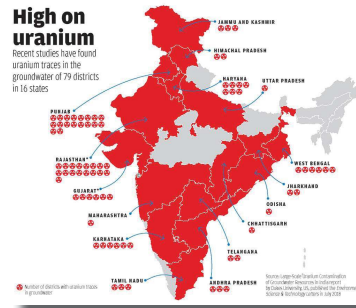
7 Month Old Crop that shows stunted growth in Mabbuchintallapalle



Gangotri was 10 when the first boil appeared on her leg. Two years later today, both her legs are covered in scabby blisters that continue to spread due to water contamination Place : Tummalapalle, Andhra Pradesh District

RIGHT AND WRONG

WIDESPREAD URANIUM CONTAMINATION FOUND IN INDIA'S GROUNDWATER



A new Duke University-led study has found widespread uranium contamination in groundwater from aquifers in 16 Indian states.

The main source of the uranium contamination is natural, but human factors such as groundwater-table decline and nitrate pollution may be exacerbating the problem.

Several studies have linked exposure to uranium in drinking water to chronic kidney disease.

"Nearly a third of all water wells we tested in one state, Rajasthan, contained uranium levels that exceed the World Health Organization and U.S. Environmental Protection Agency's safe drinking water standards," said Avner Vengosh, a professor of geochemistry and water quality at Duke's Nicholas School

of the Environment.

"By analyzing previous water quality studies, we also identified aquifers contaminated with similarly high levels of uranium in 26 other districts in northwestern India and nine districts in southern or southeastern India," he said.

The new findings are the first to demonstrate the widespread prevalence of uranium in India's groundwater.

"The results of this study strongly suggest there is a need to revise current water-quality monitoring programs in India and re-evaluate human health risks in areas of high uranium prevalence," Vengosh said. "Developing effective remediation technologies and preventive management practices should also be a priority."

"Aquifers across India contain uranium levels above WHO safety standards"

- DUKE UNIVERSITY

The World Health Organization has set a provisional safe drinking water standard of 30 micrograms of uranium per liter, a level that is consistent with U.S. Environmental Protection Agency standards. Despite this, uranium is not yet included in the list of contaminants monitored under the Bureau of Indian Standards' Drinking Water Specifications.

Vengosh and his colleagues published their peer-reviewed study May 11 in Environmental Science & Technology Letters.

To conduct the study, they sampled water from 324 wells in the states of Rajasthan and Gujarat and analyzed the water chemistry. In a subset of samples, they measured the uranium isotope ratios. They also analyzed similar data from 68 previous studies of groundwater geochemistry in Rajasthan, Gujarat and 14 other Indian states.

"Our analysis showed that the occurrence of uranium in these groundwater sources depends on several factors," said Rachel M. Coyte, a PhD student in Vengosh's lab who was lead author of the study. These factors include the amount of uranium contained in an aquifer's rocks; water-rock interactions that cause the uranium to be extracted from those rocks; oxidation conditions that enhance the extracted uranium's solubility in water; and the interaction of the extracted uranium with other chemicals in the groundwater, such as bicarbonate, which can further enhance its solubility.

"In many parts of India, these factors co-occur and result in high uranium concentrations in the groundwater," Coyte explained. "Geochemistry and isotopic tools help us to better understand the process and conditions that control uranium occurrence in groundwater."

Human activities, especially the over-exploitation of groundwater for agricultural irrigation, may contribute to the problem, she said. Many of India's aquifers are composed of clay, silt and gravel carried down from Himalayan weathering by streams or uranium-rich granitic rocks. When over-pumping of these aquifers' groundwater occurs and their water levels decline, it induces oxidation conditions that, in turn, enhance uranium enrichment in the shallow groundwater that remains.

"One of the takeaways of this study is that human activities can make a bad situation worse, but we could also make it better," Vengosh said.

"Including a uranium standard in the Bureau of Indian Standards' Drinking Water Specification based on uranium's kidney-harming effects, establishing monitoring systems to identify at-risk areas, and exploring new ways to prevent or treat uranium contamination will help ensure access to safe drinking water for tens of millions in India," he said. ■

LETTER TO AMERICAN CONSULATE

A MEMORANDUM GIVEN TO THE US CONSULATE AGAINST THE IMPORT OF AMERICAN NUCLEAR REACTORS TO INDIA

18 th March 2019
Chennai

GREETINGS! The People's Movement Against Nuclear Energy (PMANE), the Poovulagin Nanbargal (Friends of the Earth), the National Alliance of Anti-nuclear Movements (NAAM), and the National Alliance of People's Movements (NAPM) oppose the sale of American nuclear reactors to India.

India and the United States have announced the construction of six nuclear power plants in India, according to a joint statement issued at the conclusion of the 9th round of India-US Strategic Security Dialogue, co-chaired by the Indian Foreign Secretary Vijay Gokhale and Andrea Thompson, the US under secretary of state for arms control and international security, on March 13, 2019.

First of all, this policy decision of the caretaker Narendra Modi government in India is both illegal and illegitimate as the general elections are going on in the country to elect a new Parliament and the next government. Only the incoming government can and should decide on such an important policy issue. As a matter of fact, the nuclear deals and businesses all over the world often violate the national laws and the people's sentiments and interests.

Secondly, India and the US signed an agreement to cooperate in civil nuclear energy sector in October 2008 and it remained a mere paper exercise for more than a decade. After wasting so much of national time, energy and resources on this deal in both the countries, it has been announced to construct six American reactors without divulging crucial information such as the supplier company, the site/s of construction, terms and conditions of the sale and erection and so on.

The people of India and the United States should feel insulted by this kind of undemocratic and arrogant decision-making processes without consulting the peoples of both the countries in their national legislatures. The 'longest' and the 'largest' democracies tend to behave like the worst dictators when it comes to nuclear issue.

Thirdly, the hypocritical US administration compromises on the non-proliferation values and interests of humanity when it comes to its own selfish business interests. The US administration lobbied with the Nuclear Suppliers Group (NSG) to give India a special waiver enabling it to sign cooperation agreements with a dozen countries. As a result, India has signed civil nuclear cooperation agreements with the US, France, Russia, Canada, Argentina, Australia, Sri Lanka, the UK, Japan, Vietnam, Bangladesh, Kazakhstan and South Korea.

Rendering the Non-Proliferation Treaty a cruel joke, the United States has reaffirmed its strong support to India's early membership in the 48-member NSG. It is pertinent to note that India has not signed the NPT so far.

Fourthly, the US administration is strongly objecting to the civil nuclear programs of Iran and North Korea. It is not clear why or how the nuclear power programs of these two countries become so dangerous while the nuclear reactors in India, Israel and everywhere else remain so benign and acceptable. Obviously, the American stand and viewpoints on the nuclear issue are so hypocritical, self-centered and profit-oriented.

India, being a highly and densely populated country, we strongly object to the import of American and other foreign nuclear reactors and to the construction of indigenous reactors. We sincerely appeal to the US administration not to put their business interests ahead of the safety, security and well-being of the entire subcontinent. We plan to approach the Indian citizens all over the country and engage in peaceful and democratic protests against all foreign nuclear deals and to move away from the nuclear energy sector as a whole.

Requesting you to convey our feelings and sentiments to the US administration, we send you our best personal regards and all peaceful wishes.



CHERNOBYL'S DISASTROUS COVER-UP IS A WARNING FOR THE NEXT NUCLEAR AGE

"Scientists using advanced technology save Russian cities from technological disaster!" would have been the headlines on all newspapers

In 1986, the Soviet minister of hydrometeorology, Yuri Izrael, had a regrettable decision to make. It was his job to track radioactivity blowing from the smoking Chernobyl reactor in the hours after the 26 April explosion and deal with it. Forty-eight hours after the accident, an assistant handed him a roughly drawn map. On it, an arrow shot north-east from the nuclear power plant, and broadened to become a river of air 10 miles wide that was surging across Belarus toward Russia. If the slow-moving mass of radioactive clouds reached Moscow, where a spring storm front was piling up, millions could be harmed. Izrael's decision was easy. Make it rain.

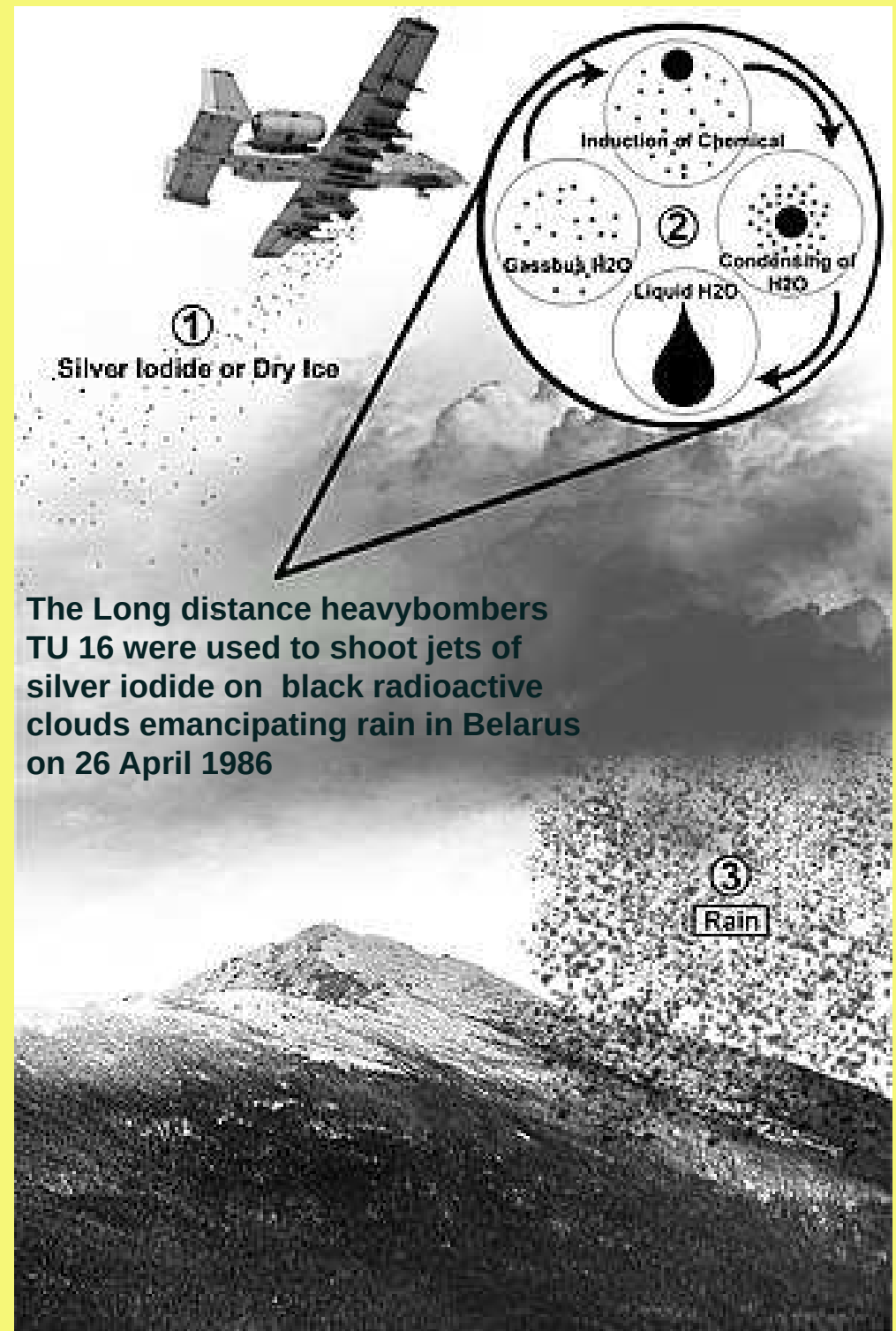
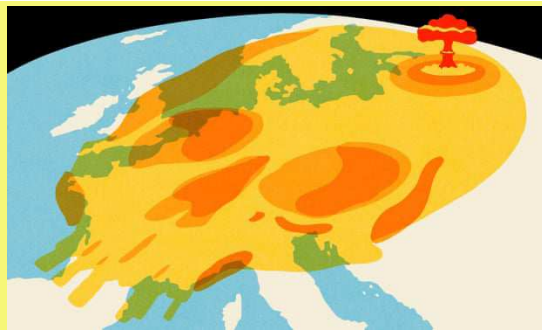
So that day, in a Moscow airport, technicians loaded artillery shells with silver iodide. Soviet air force pilots climbed into the cockpits of TU-16 bombers and made the easy one-hour flight to Chernobyl, where the reactor burned. The pilots circled, following the weather. They flew 30, 70, 100, 200km – chasing the inky black billows of radioactive waste. When they caught up with a cloud, they shot jets of silver iodide into it to emancipate the rain. In the sleepy towns of southern Belarus, villagers looked up to see planes with strange yellow and grey contrails snaking across the sky. Next day, 27 April, powerful winds kicked

up, cumulus clouds billowed on the horizon, and rain poured down in a deluge. The raindrops scavenged radioactive dust floating 200 metres in the air and sent it to the ground. The pilots trailed the slow-moving gaseous bulk of nuclear waste north-east beyond Gomel, into Mogilev province. Wherever pilots shot silver iodide, rain fell, along with a toxic brew of a dozen radioactive elements.

If Operation Cyclone had not been top secret, the headline would have been spectacular: "Scientists using advanced technology save Russian cities from technological disaster!" Yet, as the old saying goes, what goes up must come down. No one told the Belarusians that the southern half of the republic had been sacrificed to protect Russian cities. In the path of the artificially induced rain lived several hundred thousand Belarusians ignorant of the contaminants around them.

The public is often led to believe that the Chernobyl exclusion zone, a depopulated 20-mile circle around the blown plant, safely contains Chernobyl radioactivity. Tourists and journalists exploring the zone rarely realise there is a second Chernobyl zone in southern Belarus. In it, people lived for 15 years in levels of contamination as high as areas within the official zone until the area was finally abandoned, in 1999.

In believing that the Chernobyl zone safely contained the accident, we fall for the proximity trap, which holds that the closer a person is to a nuclear explosion, the more radioactivity



The Long distance heavybombers TU 16 were used to shoot jets of silver iodide on black radioactive clouds emancipating rain in Belarus on 26 April 1986



Aftermath of Chernobyl still in BELARUS : Young Girl Sveta carrying genetic marks from the Chernobyl Nuclear disaster of 1986



Ukrainians protest against the cover-up of the consequences of the Chernobyl accident, April 1990.

Before expanding nuclear power to combat climate change, we need answers to the global health effects of radioactivity

they are exposed to. But radioactive gases follow weather patterns, moving around the globe to leave shadows of contamination in shapes that resemble tongues, kidneys, or the sharp tips of arrows.

England, for example, enjoyed clear weather for several days after the Chernobyl accident, but rain started on 2 May, 1986 and fell heavily on the Cumbrian fells – 20mm in 24 hours. On the uneven, upland terrain, radioactive fallout pooled in rivulets and puddles. The needles on radiation detectors at the Sellafield (formerly Windscale) nuclear processing plant went upwards alarmingly, 200 times higher than natural background radiation. From 5 becquerels a square metre, radiation levels in topsoil spiked to 4,000 bq/m2. Kenneth Baker, the then environment secretary, issued assurances that the radioactive isotopes would soon be

washed away by rain.

Two months later, however, levels rose yet higher to 10,000 bq/m2 in Cumbria and 20,000 bq/m2 in south-western Scotland, 4,000 times higher than normal. Scientists tested sheep and found their levels of caesium-137 were 1,000 becquerels per kilogram – too high for consumption. In the midst of general anxiety, the Ministry of Agriculture, Fish and Food (MAFF) issued temporary restrictions on the sale of meat for 7,000 farms. The early predictions of caesium being washed from upland soils proved optimistic. The mineral-starved native plants efficiently drank up radioactive isotopes. Tiny micro-fungi moved caesium-137 from the roots to plant tips, where grazing sheep fed.

Researchers added months, then years, to their predictions of how long the radioactive caesium would linger in the environment. Eventually, restrictions remained in place for 334 farmers of north Wales for 26 years.

As researchers monitored Chernobyl radioactivity, they made a troubling discovery. Only half of the caesium-137 they detected came from Chernobyl. The rest had already been in the Cumbrian soils; deposited there during the years of nuclear testing and after the 1957 fire at the Windscale plutonium plant. The same winds and rains that brought down Chernobyl fallout had been at work quietly distributing radioactive contaminants across northern England and Scotland for decades. Fallout from bomb tests carried out during the cold war scattered a volume of radioactive gases that dwarfed Chernobyl.

The Chernobyl explosions issued 45m curies



BELARUS, Gonet orphanage for abandoned Children - 4 1/2 Year Sasha has no lymphatic system affected from BLACK RAIN radiation

of radioactive iodine into the atmosphere. Emissions from Soviet and US bomb tests amounted to 20bn curies of radioactive iodine, 500 times more. Radioactive iodine, a short lived, powerful isotope can cause thyroid disease, thyroid cancer, hormonal imbalances, problems with the GI tract and autoimmune disorders.

As engineers detonated over 2,000 nuclear bombs into the atmosphere, scientists lost track of where radioactive isotopes fell and where they came from, but they caught glimpses of how readily radioactivity travelled the globe. In the 1950s, British officials detected harmful levels of radioactive caesium in imported Minnesota wheat. The wheat became radioactive from US bomb tests in Nevada, 2,500km from the Minnesota wheat-fields. But over the years, scientists failed to come to an agreement on what the global distribution of radioactivity in the food chain did to human health. When the Chernobyl accident occurred, experts in radiation medicine called for a long-term epidemiological study on Chernobyl-exposed people. That study never occurred. After Fukushima, Japanese scientists said what Soviet scientists asserted after Chernobyl – we need 20 years to see what the health effects from the accident will be.

Fortunately, Chernobyl health records are now available to the public. They show that people living in the

radioactive traces fell ill from cancers, respiratory illness, anaemia, autoimmune disorders, birth defects, and fertility problems two to three times more frequently in the years after the accident than before. In a highly contaminated Belarusian town of Veprin, just six of 70 children in 1990 were characterised as “healthy”. The rest had one chronic disease or another. On average, the Veprin children had in their bodies 8,498 bq/kg of radioactive caesium (20 bq/kg is considered safe).

For decades, researchers have puzzled over strange clusters of thyroid cancer, leukaemia and birth defects among people living in Cumbria, which, like southern Belarus, is an overlooked hotspot of radioactivity from cold war decades of nuclear bomb production and nuclear power accidents.

Currently, policymakers are advocating a massive expansion of nuclear power as a way to combat climate change. Before we enter a new nuclear age, the declassified Chernobyl health records raise questions that have been left unanswered about the impact of chronic low doses of radioactivity on human health. What we do know is that as fallout from bomb tests drifted down mostly in the northern hemisphere, thyroid cancer rates grew exponentially

In Europe and North America, childhood leukaemia, which used to be a medical rarity, increased in incidence year by year after 1950. Australia, hit by the fallout from British and French tests, has one of the highest incidence rates of childhood cancer worldwide. An analysis of almost 43,000 men in North America, Europe, Australia, and New Zealand, showed that sperm counts dropped 52% between 1973 and 2011. □

These statistics show a correlation between radioactive contaminants and health problems that are similar to those that materialised in Chernobyl-contaminated territories. A correlation does not prove a causal link. These statistics do, however, invite a lot of questions; questions that scientists and stakeholders should tackle before we enter a second nuclear age. ■



No one told the Belarusians that the southern half of the republic had been sacrificed to protect Russian cities.

In the path of the artificially induced rain lived several hundred thousand Belarusians ignorant of the contaminants around them.



Frequent outages (47 Times) at Koodankulam plant unusual, trying to fix it

- Dept of Atomic Energy

This is the first acknowledgement from a government authority and comes months after the issue of frequent power outages was flagged by Poovulagin Nanbargal

Months after Poovulagin Nanbargal, a Tamil Nadu based volunteer group working on environmental issues, raised concerns over the unusual number of outages of reactors at the Koodankulam nuclear power plant, the Department of Atomic Energy (DAE) has accepted the NGO's claim.

Kamlesh Nilkanth Vyas, the Secretary of the DAE and Chairman of the Atomic Energy Commission, in an interview to News18 Tamil Nadu, said that the Nuclear Power Corporation of India Limited (NPCIL) is trying to fix the issues faced by the Koodankulam power plant.

"I do agree (that the number of stop-pages of units 1 and 2 are unusual). We are trying to address it. There are some initial problems," he said. Adding that similar operational issues were faced in Tarapore also during the initial years of operations, he said, "I feel definitely NPCIL is putting in tremendous amount of effort and they will be able to overcome the difficulties."

This is the first time someone from the government is accepting that there are issues with the Koodankulam nuclear power plant. In November 2018, the group had written to the Atomic Energy Regulatory Board (AERB) seeking the appointment of a committee with independent experts to inspect Units 1 and 2 of the Koodankulam plant.

In its 5-page letter, Poovulagin Nanbargal had stated that Unit 1 of the plant had tripped 40 times since it began its operations in 2013 and also listed a few instances of such outages.



The letter had also called AERB's attention towards the fact that on every instance the plant stops working, it takes at least four months for it to restart operations.

"Also, recently NPCIL achieved a "historic milestone" by declaring that the nuclear plant in Kaiga produced power for more than 900 days continuously, whereas we don't have any data to understand that the two units at Koodankulam ran successfully for at least 600 days continuously," the letter read.

The letter also alleged that contrary to an order by the Supreme Court which made it compulsory for the NPCIL to report every outage that happens in the plant to the AERB, the NPCIL did not submit any report of these outages. "The failure on the part of the NPCIL in not sending any reports to the AERB and other authorities can be confirmed by the "Report of the Comptroller and Auditor General of India on Koodankulam Nuclear Power Project, Units I and II", published on March, 2017," reads the letter.

The AERB, in its reply to Poovulagin Nanbargal on December 20, 2018, had stated that the glitches the two units faced were normal issues which affect the production of the plant. "None of the events has challenged reactor safety... All safety systems are available in line with the requirement of Technical Specifications for Operation," read the response from AERB which dismissed the request for appointment of an expert committee to review the safety systems in the reactors.

In a reply to a DAE Secretary's interview, Dr S P Udayakumaran of People Movement Against Nuclear Energy, on a interview to News18 Network, demanded a detailed transparent report from an independent scientists panel because the lives of 8 Crore tamils and 4 Crore Malayalis matters.

He insisted the central government should take stringent action on the same issue considering the DAE chief's, since koodankulam nuclear power plant is the india's largest plant thats been imported to india. ■

"I do agree (that the number of stop-pages of units 1 and 2 are unusual).

We are trying to address it".

- DAE Secretary Kamal Nilkanth Vyas



**8 Crore Tamil Lives
4 Crore Malayali Lives
They all Matters !**

**Nuclear Plant
Problems are not some
bus Break down !**

SOVEREIGN GUARANTEE FROM INDIA NEEDED FOR FINANCIAL ASSISTANCE TO JAITAPUR PROJECT: ÉLECTRICITÉ DE FRANCE

French major EDF, which has got the contract for building reactors for the Jaitapur nuclear power plant, has said India will have to provide a sovereign guarantee to two other state-run firms of France for providing financial assistance for the project.

The EDF, which will construct the country's largest nuclear power park comprising six atomic power reactors of 1,650-MW each in coastal Maharashtra, had submitted a techno-commercial offer to the Nuclear Power Corporation of India (NPCIL) in December last year.

The NPCIL, a PSU under the Department of Atomic Energy, operates over 20 nuclear reactors in the country.

India is yet to respond to the techno-commercial offer,

sources said.

Replying to a question on the financial aspect of the project, Vakis Ramany, Senior Vice President at EDF, in an e-mail interview to , said the total cost of the project is "confidential and may not be disclosed" at this stage.

He said EDF would only act as the EPR technology provider and not be an investor itself but would facilitate financing discussions as much as possible.

"Capital contributions from NPCIL and lenders will secure financing. Under a French government export credit scheme supported by two well-established French financial institutions, namely BPI France and SFIL, lenders and banks will provide a significant portion of the required loans. A sovereign guarantee from the Government of India should secure the whole package," Ramany said.

Both BPI France and SFIL are French government-owned financial institutions.

Loan is a major component of EDF and NPCIL negotiations. It will have an impact on the pricing of the project and tariff for the electricity generated from the plant.

Incidentally, while negotiating the Rafale fighter jet deal, France had given a 'Letter of Comfort' to India instead of sovereign guarantee, a move that was criticised by the Comptroller and Auditor General of India while auditing the aircraft deal



“While negotiating the Rafale fighter jet deal, France had given a ‘Letter of Comfort’ to India instead of sovereign guarantee, a move that was criticised by the Comptroller and Auditor General of India while auditing the aircraft deal.

“In 2016 India signed the international convention on nuclear civil liability, referred to as CSC. This has improved EDF’s ability to define suitable contractual terms and gave confidence in carrying out discussions.

“Considering the way we operate in other countries, we need a liability regime that offers a level of protection equivalent to that in other countries. We are in a constructive process with the Indian administration,” he said.

One of the reasons behind delay in signing the General Framework Agreement (GFA) was non-completion of Flamanville 3 reactor in France, which has been the reference plant for the Jaitapur project.

Without an operating reference plant, the Atomic Energy Regulatory Board (AERB), the nuclear power watchdog in the country, will not give go-ahead to the project.

“Flamanville 3 is currently in the testing phase that will lead to the fuel loading in the fourth quarter of this year,” he said.

The Jaitapur Nuclear Power Plant was envisaged under the Indo-French nuclear deal signed in 2008. ■

Ramany also declined to divulge the tariff per unit. According to the initial negotiations carried out by Areva, which was later taken over by EDF, India is looking at a tariff of Rs 6.50 per/unit when the plant starts generating electricity.

“Our pricing assumptions are of a commercially confidential nature. The offer is currently under review. It would be premature at this stage to provide numbers. Our focus is to make sure that electricity generated remains competitive over decades,” he said.

The six EPRs will be able to produce more than 75 terawatt (TWh) per year which is enough energy to power 70 million Indian households based on current energy consumption, he claimed.



SUCCESSFUL COOPERATION

NAAM 6th National Meet Successfully held in Bhopal.

A two day national conclave was held on October 28 and 29 of 2018 in Gandhi Bhawan in Bhopal



NAAM 2018 Decisions :

1. NAAM will meet twice a year
2. NAAM to have national level response mechanism for activist repression

PANDORA - a southkorean nuclear disaster movie was screened at the end of national conclave

Addressing a joint press conference, S P Udayakumaran, Saumya Dutta Vaishali Patel and Rajkumar Sinha : **Days of Nuclear Power are Over :: Movement groups from across India demand Scrapping Chutkha and other Nuclear Power Projects. - Press Note (Below)**

Anti-Nuclear movement groups from across India, through the initiative of National Alliance of Anti-Nuclear movements came together in Bhopal for a two-days national conclave, and demanded the immediate scrapping of Chutka Nuclear Power Plant, and all other NPPs planned in India. The repeated lessons from disasters caused by nuclear power plant accidents, the huge adverse impacts from nuclear minerals mining, illegal appropriation of Adivasi land in contravention of constitutional protection etc. have crossed all limits of rational planning and governance, and the people of India are not willing to tolerate this any longer.

In addition, the reality of electrical power generation capacity and demand in India, where the present installed capacity is nearly double the present peak demand, as brought out by the 2016 December report of the Ministry of Power itself, the very high installation and per unit generation cost of nuclear power compared with solar and wind power adds to the mounting reasons for scrapping India's misplaced nuclear power plans. In addition, nuclear power plants are also known to spread radioactive contamination in the form of vented gases and released liquids, even when they are operating "normally". Looking at the high population density of India, including around the existing and planned NPS, the potent dangers to massive radioactive exposure threats cannot be overlooked.

At a time when most countries of the world are moving away from nuclear power, including having concrete plans for phase-out of their present nuclear power capacity, the Indian governments unreasonable push for more such dangerous white elephants, cannot be justified by any logic, whether environmental and social safety or from sane economic understanding.

In view of these facts, the movement groups demand that all political parties should include these peoples' demand in their manifestos, starting with in the states going for election this year, as is Madhya Pradesh ignoring this would be an insult to large scale peoples' demand in this regard, we acknowledge the positive stand that former CM of Madhya Pradesh, Mr Digvijay Singh, for his stand against the Chutkha NPP, which he openly expressed in his letter to the Prime Minister and the current Chief Minister. We invite all other political leaders to be courageous in accepting this reality and supporting this demand.

The movement groups that participated in this two day conclave are National Alliance of Anti-nuclear Movements (NAAM), All India Peoples' Initiative Against Nuclear Power (AIPANP), Konkan Vinaskani Prakaip Virodhi Sangharsh Samity, Jan Hakka Sewa Samity - Jaitapur, Peoples' Movement against Nuclear Energy (PMANE) - Koodankualm, Friends of Earth - Chennai, Parmanu Sanyantra Virodhi Sangharsh Samity - Haryana, Bharat Jan Vigyan Jatha, Chutkha Parmanu Virodhi Sangharsh Samity - Mandla and others. ■