

Vaccine trial raises hope against dengue

Accelerate the process to make it available for widespread use

We're delighted to learn of the successful trial of a dengue vaccine in Bangladesh that reportedly showed promising results in fighting against the mosquito-borne disease. According to a study based on the trial, published in *The Lancet Infectious Diseases* journal, it demonstrated both safety and immune responsiveness in children and adults who participated in it. Specifically, antibodies to all four dengue serotypes were found in most participants after vaccination. This is a crucial result as dengue has multiple serotypes, and an effective vaccine needs to provide protection against all of them.

The successful evaluation of the single-dose vaccine, known as TV005, which was developed by the US National Institutes of Health (NIH), is a remarkable achievement indeed. It offers a glimmer of hope especially for Bangladesh as it faces the most severe dengue outbreak in its history. Bangladesh's participation in what was its second trial has been followed by a third, which is currently underway in India and some other countries. One can only hope that researchers who have collaborated on the project will accelerate the process to make widespread use of the vaccine possible within the shortest period of time.

The need for an effective vaccine for us cannot be overestimated. The lack of a specific drug or vaccine so far meant that fluid management and symptom control, through preventive measures, are the only instruments available to fight dengue. Their effectiveness has been questionable at best, however, with the number of dengue patients hospitalised in Bangladesh this year exceeding two lakh already. So many people have never been infected in a single year before, neither have so many died, as the latest figures show. Until 2023, some 853 people officially died between 2000 – when the first dengue outbreak was reported in Bangladesh – and 2022. Alarmingly, the death toll as of September 29 this year has already crossed 975, which goes to show the level of danger we face as well as the urgency of finding an effective antidote.

Against this backdrop, the successful trial of a dengue vaccine raises hope against the greatest threat to face public health in Bangladesh since the outbreak of Covid-19. The development of TV005 is a testament to the collaborative efforts of global research teams and the dedication of scientists working to combat dengue. We urge global healthcare leaders to ensure that the vaccine's accessibility and pricing will not be an issue for poor countries like Bangladesh, like it was in case of coronavirus vaccines.

Level up remote Bandarban villages

Why do these communities have no access to basic healthcare and education?

It is shocking to know that around 300 families of Mro, Tripura and Marma communities in Bandarban's Thanchi upazila have no access to basic healthcare and education. It is as if they have been completely forgotten, with no signs of any change being initiated. According to a report by this daily, more than 2,000 people live in these remote villages, including around 250 children and adolescents. There are no government schools there, and health workers never visit them even during immunisation campaigns.

To say the lives of these people are precarious is an understatement. The question is, why have these legitimate citizens of the state been deprived of basic facilities? The only school in the 18 villages there is run by a non-government organisation, and that too, up to class 4. Which means most of the children don't go to school at all. It is also appalling that pregnant women have no access to prenatal care or even any basic healthcare service.

The level of apathy displayed by the administration is disconcerting. Some of the local public representatives have said that they would write to the authorities requesting visits by health workers. But what prevented them from doing so all these years? The Bandarban civil surgeon has mentioned a "special programme" under which health services would be provided and health workers would visit at least once in three months. This is hardly adequate to cover the needs of these communities. Another public official has also said that a primary school can be set up if anyone donates a piece of property. Does this mean that the government cannot set up a school until someone makes such a donation?

There are questions galore, but no satisfactory answers. We, therefore, urge the authorities to focus their attention on these remote villages. They must take immediate steps to establish functioning healthcare facilities there. Immunisation programmes and health education awareness campaigns also have to be brought to these areas. The government must also establish primary and secondary schools to make sure every child has access to education. These steps are also essential in other remote areas of Bandarban where the situation is similar. It is unacceptable that basic services should be inaccessible to some citizens just because they live in remote areas and are part of minority communities. Such discrimination goes against our constitution.

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DHAKA ELEVATED EXPRESSWAY Plan versus reality



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If expressway usage doesn't pick up soon, it could render the project's aim unattainable.

PHOTO: NAIMUR RAHMAN

It is well-known that Dhaka faces a shortage of roads and that, while roads are being constructed on top of each other, no new streets are being created. So, the Dhaka Elevated Expressway project included a broadband network of roads, particularly for those travelling long distances in buses and trucks. This project aimed to connect the industrial belt adjacent to Dhaka, facilitating faster and more efficient commutes. Additionally, it aimed to address the complexity of diverting the three bus rapid transit and three mass rapid transit lines also mentioned in the Strategic Transport Plan for Dhaka, reducing the inconvenience caused to the public.

The idea was to utilise railway land without the need for acquisition and to swiftly complete the project in the planned 42-month timeframe, as outlined in the ruling party's then election manifesto. Essentially, if long-distance travellers freed up space on the lower levels of the streets, it was proposed that the public transportation system could be reorganised to complement mass transit effectively. The goal was to establish a transportation skeleton for the entire area surrounding the expressway since vehicles on flyovers could already move quickly, and a similar approach was needed below using a public transport network.

Whether it's the metro rail or an expressway, they all have limitations. But a bus route covers a broader spectrum. It doesn't end where the physically constructed roads or lines do. This is why it is crucial to make public transport faster on the roads. Unfortunately, investors were not enthusiastic about this idea and entered negotiations with the government regarding the placement and routes of the expressway. Investors argued that constructing the expressway outside of Dhaka wouldn't alleviate traffic within the city. This is why we ended up with an expressway within the capital. At the time, rail wasn't a separate ministry from roads. But when the minister realised they wouldn't need to go through the lengthy process of land acquisition since the railway already owned the land, the tender process began as it met all the criteria: speed, location (within Dhaka), and no requirement of land acquisition.

However, reality threw a wrench

into this plan. As the project didn't receive the necessary attention from the start, the government decided to separate rail into a different ministry. It injected significant funding and launched projects to improve the railway industry, for valid reasons. However, this clashed with the expressway project, causing further delays. The adverse effect of this was that the expressway's intended purpose – to alleviate traffic while the metro rail was being built – was not achieved. To add to this, traffic congestion worsened even more rapidly, with around a million motorcycles now on Dhaka's streets.

Additionally, the original alignment and ramp location in the tender were not realised either. Whenever there was a hiccup regarding the location, the ramp placement was shifted elsewhere, to Kakoli, Mohakhali, and even on the Bijoy Sarani-Tejgaon Link Road. The last flyover struggles to bear its own traffic load, which has now been exacerbated by the addition of the elevated expressway ramp. This was not part of the original design, signifying how our current model of "development" consists of additions and subtractions.

Constructing a large-scale road like the expressway on top of existing roads naturally comes with drawbacks. To address this, certain design features were implemented, such as the ones at Bijoy Sarani and Kakoli. However, when there is a sudden influx of vehicles in already congested areas like Kakoli, measures like U-loops become necessary. Regrettably, these measures

instances, the investor could introduce off-peak rates, potentially attracting more users. For daily commuters, paying tolls twice a day is a significant expense. Investors could lower tolls to attract more users, thus achieving a higher return on their investment.

If expressway usage doesn't pick up soon, it could render the project's aim redundant. Such a substantial

were not implemented, indicating that the completed project significantly deviates from the original.

It is essential to remember that the Dhaka Elevated Expressway is a PPP (public-private partnership) project. In determining tolls, the government plays no role since investors themselves financed the construction and must also maintain operations during the 24-year contract period. The government's role is limited to providing land and viability gap funding. A base rate for the tolls was set in 2013, with adjustments every three years to account for inflation. If currency devaluation reaches, say, 10 percent, that percentage can be added to the current toll. This means that even operators cannot set toll prices arbitrarily, and the government cannot object to price increases within the toll pricing framework.

In terms of pricing, the investors may consider reducing tolls strategically for their benefit. Inside cities, flyovers are utilised primarily when the streets below are highly congested. People are willing to pay for faster travel during such times. However, during late-night hours when there's no traffic, few would be willing to pay tolls. In such

investment for improved infrastructure should yield visible benefits. The project was supposed to reduce traffic by 30-40 percent – a goal that remains elusive as of yet.

In many countries, traffic engineers work on road transport, bridges, and similar infrastructure to optimise traffic flow. Peak hours result from the uniform application of rules, regulations, and tolls, causing everyone to hit the road at the same time. Encouraging a portion of commuters to start their journeys even half an hour earlier could alleviate congestion. Implementing on-peak and off-peak hour rates can incentivise this behaviour, resulting in smoother, faster travel and financial savings for commuters. Singapore, in particular, takes it a step further with variable congestion pricing, adjusting tolls based on road congestion.

For a Smart Bangladesh, relying solely on fixed tolls is insufficient. By altering travel behaviour and extending the peak hours over a longer period, everyone could enjoy improved lives and the economy could see a boost.

As told to Monorom Polok of The Daily Star:

First delivery of nuclear fuel takes Bangladesh closer to its goal



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Bangladesh is set to get one more step closer to becoming a country with nuclear energy capacity, as the first consignment of nuclear fuel for Rooppur Nuclear Power Plant (RNPP) is scheduled to be handed over in the first week of October. RNPP is the single biggest investment in the history of the country, with 30,000 people, including 7,000 professionals, working on the project. This key energy project, which is expected to operate for 60-80 years, will cover approximately 10 percent of Bangladesh's electricity demand at cheaper rates.

Transport of nuclear fuel, consisting of pellets of uranium, a radioactive element, is strictly guided by the International Atomic Energy Agency (IAEA) standards and regulations. The fuel can be transported by special air cargo, nuclear fuel carrier ships, trains or trucks under high security measures.

The transport model for RNPP fuel will be similar to that for the nuclear fuel delivered to Akkuyu Nuclear Power Plant in Türkiye earlier this year. On April 27, the presidents of Türkiye and Russia joined an online ceremony

to mark the arrival of the first consignment of fuel at Akkuyu, which was implemented under the build-own-operate (BOO) model. According to Türkiye's energy ministry, the nuclear fuel was first brought in by air from Russia, then loaded on trucks and transported to the Akkuyu plant site. The uranium pellets, which were transported in protective containers and whose radiation measurements were taken, did not pose any security risk.

In Bangladesh, after the consignment of fuel arrives in Dhaka, it will be loaded onto a special truck and transported to the RNPP site, under a security protocol to be devised by the Bangladesh Army following IAEA safety standards and national safety rules and regulations.

Before loading the fuel into the reactor core, loading dummy fuel assemblies (DFA) is an indispensable prerequisite process – a kind of a rehearsal. The trial run includes, among other things, handling of transport and process operations regarding the DFA movement from the special fresh fuel storage facility to

the reactor building, and confirmation of the refuelling machine readiness. Dummies are true copies of fuel assemblies (FA), having the same design in terms of weight, dimensions and materials, but do not contain the nuclear fuel. They are intended for use during commissioning at the stage of cold and hot tests of the reactor plant, in order to check it for regulatory compliance with design characteristics and safety requirements to protect people and the environment in the surrounding areas.

For adequate accident analysis, the test programmes should include simulation of equipment failures and control system malfunctions that could reasonably be expected to occur during the power plant's lifetime, to ensure that the plant is capable of withstanding the anticipated transients and postulated accidents.

An official ceremony was held in July this year to mark the issuing of licences from the Bangladesh Atomic Energy Regulatory Authority for nuclear fuel. The Class B licence authorises the purchase, ownership, handling and storage of nuclear materials, the Class D licence allows the Russian transport company to transport nuclear materials, and the Class E licence approves the import of nuclear materials. The licences were handed over to the Bangladesh Atomic Energy Commission, the owner of RNPP.

Alexey Deriy, vice president of JSC Atomstroyexport – a subsidiary of Russia's state-owned company Rosatom – as well as the director of

RNPP construction project, said the delivery of nuclear fuel to the plant is a complex multi-level process that should meet all international safety standards. The fuel inspection has been completed in Novosibirsk, a city in Siberia, and is all set to be transported to RNPP.

The Rooppur Nuclear Power Plant represents a fundamental transformation in Bangladesh's economy, energy and technological future. Once it goes into operation, the project is expected to drive the country's annual GDP growth by over two percent. The plant is expected to generate 2,400 MW of electricity every day when in full operation. As nuclear energy is recognised (by the European Commission) as green energy, this will take Bangladesh forward in its target of clean, sustainable energy. Besides industrial and research and development (R&D) opportunities, this project will provide employment to over 12,000 people, including 2,500 highly qualified specialists. Most importantly, this project has paved the way for technology transfer and localisation, development of national infrastructure at such a large scale, and a culture of ensuring safety. The completion of the first unit (RNPP-1) is testament to international collaboration and demonstration of Bangladesh's nuclear capability.

To meet the net zero goal by 2050, traditional renewables alone cannot suffice. The inclusion of nuclear power, now accepted as clean energy, can achieve the de-carbonisation goal.