

Event Transcript

Missile Technologies in Southern Asia

The Stimson Center

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Featuring:

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Zeba Fazli (moderator), Research Associate and Strategic Learning initiative Lead, South Asia Program, Stimson Center

Elizabeth Threlkeld (opening remarks), Senior Fellow and Director, South Asia Program, Stimson Center

Event Description

A panel of regional experts assessed the role that missile technologies play in Southern Asia today and the impact they may have in the future. This discussion marks the launch of the Stimson South Asia Program's latest online course, Missile Technologies in Southern Asia, which connects technology to strategy by explaining major missile technologies and how they work, and by presenting diverse perspectives on their relevance to strategic competition in Southern Asia and around the world. The course is a free resource designed for students of all experience levels and backgrounds. It takes three hours to complete and earn a Stimson certificate. [Register for the course.](#)

More information and event video available at: <https://www.stimson.org/event/missile-technologies-in-southern-asia/>

Event Transcript

Elizabeth Threlkeld: Good morning and good evening. A very warm welcome to all of you joining us this morning or this evening, depending on where you are coming from. My name is Elizabeth Threlkeld and I am the Director of the South Asia Program at the Stimson Center. It really is a pleasure to be hosting this event this morning, to have you all with us. We are really pleased to be launching an online course that is a new offering from the Strategic Learning initiative. It is entitled Missile Technologies in Southern Asia. And to celebrate that and to dive a bit deeper, we have assembled a really outstanding panelists of experts. Very pleased to welcome Antoine Levesques, Debak Das and Haleema Saadia to join us, along with my colleague Zeba Fazli, who is the lead of our Strategic Learning team.

This is a topic that has been in the news quite a bit recently. These are only a few highlights that I have picked, but back on October 18th, Pakistan test fired its Ababeel medium-range ballistic missile, which is capable of carrying multiple independently targetable re-entry vehicles or MIRVs. Then a day later, we heard from the Pentagon in its China Military Power Report, which assessed that China currently has 500 warheads, 350 intercontinental ballistic missiles or ICBMs, and in the last year competed three new fields of ICBM silos. Then on November 7th, we saw a test from India, which test fired its Pralay short range surface-to-surface missile.

A lot going on and the course that we are launching today is particularly timely and truly is something that we are really proud of as a team. This is a one of a kind resource that will allow us all to better understand the technical details of missiles and their impact on strategic competition in Southern Asia. Best of all, it is completely free. If you complete the course, you will receive a certificate from the Stimson Center.

That speaks to the mission of Stimson Strategic Learning initiative, which originally was a brainchild of our co-founder Michael Krepon, and Zeba and her team have ably carried forward.

These are technologies that have the potential to impact everyone in the region and beyond, but we realize that relatively few people have the access to the educational resources to be able to learn about them and study them deeply.

We seek to fill that gap by featuring a diverse set of regional and international experts who share their insights in these free online courses. We have three other offerings already out which cover South and Southern Asia's strategic history, deterrence dynamics and crises, and a slew of social media content. I would encourage you all to enroll today to check those out.

Last but not least, a very big thank you to our funders who make this work possible and to all of the Stimson South Asia and Strategic Learning team for their work, hats off for a really successful product. I will turn things over now to my colleague Zeba, who will introduce our panel and tell you a little bit more about the course. Thanks.

Zeba Fazli:

Thank you so much, Elizabeth. Hello to everyone joining us from around the world. Again, my name is Zeba Fazli. I am a Research Associate and project leader for the Strategic Learning Initiative here at Stimson South Asia, and I am thrilled to be celebrating the launch of our latest course with all of you and to moderate what's sure to be a really engaging discussion with these fantastic panelists who I will introduce shortly.

Before we get to that, I wanted to talk a little bit more about Missile Technologies in Southern Asia, the course, which has been such a labor of love for all of us in the South Asia program across Stimson. I want to offer particular shout-outs to my team, including Betzalel Newman and Sid Sridhar, as well as former Stimsonites who had a big hand in this course, including Dante Schulz and Shafaq Khan. This course is the pilot of a new product type that we are interested in, where we are approaching our content by making shorter and more accessible courses about functional topics in the region.

This allows us to aim for both breadth and depth as we survey and analyze emerging trends or topics, as well, as Elizabeth said, to highlight the diverse perspectives of our many expert lecturers – there are over 20 in this course alone – and to do all of that for free in just six lessons and about three hours of your time as a student.

More broadly, as Elizabeth mentioned, we are seeing missiles becoming more and more important in competition and conflict around the world and certainly in Southern Asia, and certainly over the last couple of weeks. As missiles become more numerous, advanced and important, we are going to dig into the drivers of those dynamics, both in the course as well as with our panel today.

What we are interested in is highlighting both the technical details of what these technologies and systems are and how they work and in contextualizing their present role and potential future roles and military strategies in Southern Asia, as well as their impact on crisis and deterrence dynamics in the region. Rather than telling you all of this about the course, I think it might be helpful if I show it to you. If you will bear with me for a moment, I'm going to share the trailer for missile technologies in Southern Asia. One moment please.

[Watch the trailer here.](#)

Trailer Script:

In a world shaped by strategic competition, many states have gained the means and the weapons to pursue their goals on the global stage. Missiles are an increasingly critical tool in this fast evolving contest. From Russia to the United States to Japan, China, and North Korea, states are racing to develop more and more capable missile systems to deter or coerce their adversaries. So too in Southern Asia where missile technologies are central to competition between nuclear armed adversaries in the shadow of global powers, as arsenals and capabilities continue to grow, what does the future hold for missile technologies and their impact on regional security? How will missiles shape competition between China, India, Pakistan, and beyond?

With 30 years of research and analysis, the Stimson Center South Asia Program brings leading expertise on these and a wide range of regional security issues. Our new course from the Strategic Learning initiative, Missile Technologies in Southern Asia features experts from the U.S. and across the region on evolving missile technologies, their impacts and efforts to manage risks. Enrollment is free, easy and open to anyone looking to better understand how these critical issues will shape security dynamics going forward in the region and around the world. Enroll in Missile Technologies in Southern Asia for free today at stratlearning.org.

Zeba Fazli:

I will [share my screen](#) once more in order to share a little bit more specific information about the course and how you can get involved and to check it out.

As you saw in the trailer, this is a three-hour course that is completely free, and what we are interested in is connecting missile technologies and systems to strategy by presenting diverse perspectives on their impact on competition in Southern Asia and around the world. As I mentioned earlier, this course features video interviews with more than 20 scholars, two of whom are here with us this morning, as well as extensive original texts and mini-games and interactions, some of which you saw in the trailer and some of which I will highlight in a moment.

Our course covers a variety of missile technologies and defense systems, including ballistic and cruise missiles, BMD systems, MIRVs, as well as potential risk reduction measures that could be implemented in Southern Asia. We will talk much more about this with our panel, but to show you a little bit of what is in the course, I have included [some screen grabs](#) here to give you a sense of what it is like to actually interact with and take a Strategic Learning course. This is an excerpt of our introductory lesson. So as you can see, we have a lot of text, photos, infographics. It is a really intuitive and exciting system to be able to contextualize a lot of what you are learning as well as to make sure that you are doing it in a fun and incredibly interactive way.

There are knowledge checks interspersed throughout, so you are always being tested, but not in a pressurizing way. We also have incredibly accessible, but also in depth text content, that underlines what the arsenals across the region are that features video content as well as audio content from our lecturers. Again, it is just a fantastic way of learning a lot in very little time. Strategic Learning courses are open to everybody, whether you are a student or professional. Undergraduate and graduate students as well as practitioners have plenty to learn.

Beginners in these fields can be introduced to concepts, fundamentals, and technologies, while experts get to dive deep into the historical and

contemporary case studies. For those of you who are in attendance today who are at a university or are otherwise in an instructor capacity, we do a lot of partnerships with instructors and professors, both in the region and in the U.S. There are a couple of ways that you can seek to partner with us if that would be of interest. You can promote Strategic Learning courses, including the missile technologies course to your students, encourage the students to enroll on their own free time. If this is a subject area that interests them, you can integrate them into your syllabi or classroom by incorporating video lectures or lesson files into your syllabus.

You can assign the entire course to your students and have them receive a certificate in order to gain credit in class or you can partner with us. We have organized bootcamps and workshop series, both virtually with students and universities in India, Pakistan, and in the U.S. There are plenty of ways to interact and make use of these fantastic resources. We also have an entire drive of instructor resources available on our website at www.stratlearning.org, which includes a lot of PDFs, transcripts, extra learning opportunities, essay prompts, anything you can think of. I highly encourage you to check that out if it is of interest. As we have said, all the courses and all the content and Strategic Learning is completely free. All you have to do is go to www.stratlearning.org to make an account and enroll.

All of our courses come in two editions. One is the Complete Edition. This is the one where you are required to complete all lesson content in order to earn a certificate, versus our Flex Editions, which are primarily geared towards professors who are only interested in assigning certain lessons or certain content to their students. It is open for those of you who want to check out what is in the courses without having to go in order. Again, they offer certificates, we have essays, resources, all kinds of additional resources. Please do check it out at stratlearning.org.

With that through, I would like to introduce our panel and get into the discussion. First of all, we have Debak Das with us, Assistant Professor at the Josef Korbel School of International Studies at the University of Denver. We also have with us Antoine Levesques, a Research Fellow for South and Central Asian Defense Strategy and Diplomacy at the International Institute for Strategic Studies. Last but not least, we have the wonderful Haleema Saadia who is a current South Asia program Visiting Fellow with us as well as a lecturer at the National University of Modern Languages. Welcome to all of you. Thank you for joining us.

This panel will be primarily based around questions and answers, so we will be dispensing with opening remarks in order to dive into the discussion. We will include an audience Q&A later on in the hour. Please do feel free to submit your questions via the Q&A box, and I'm excited to

have our panel dig into them. And as a reminder, speakers, please do keep your responses to about two minutes max so we can get to as many questions as possible.

To start with, for all of you, I am interested in your opinion of why understanding missile technologies is important for understanding international security issues more broadly in Southern Asia and beyond? In other words, what can a course like Missile Technologies in Southern Asia offer to audiences, especially for those who may not be as familiar with the technologies or the missiles in the first place? Debak, let us start with you and then go to Antoine and then Haleema.

Debak Das:

Thanks a lot, Zeba, and thank you for having me at this panel and at this launch of this event. To start off, I would say we are in an age of widespread proliferation of missile technologies. That is not just in South Asia, Southern Asia, it is across the Indo-Pacific, in the United States as well. To understand some of these regional dynamics and what to expect with missile proliferation, what should we be expecting states to build? How should we be expecting states to acquire some of those technologies? I think it is important to understand the history of missile proliferation, but also understand the effects of arms racing within the broader context of missile proliferation.

In that geopolitical context, a course like this would be extremely useful. Another important point is ultimately a state's ability to fight a conventional war or be able to enact some form of nuclear deterrence. All of that in many ways in today's world depends on missile technology. This course is extremely timely and useful for that. As somebody who is about to teach a course next quarter, I am looking forward to using some of these resources that you guys have put together.

Zeba Fazli:

I am glad to hear it. Thank you, Debak. Antoine, onto you.

Antoine Levesques:

Thank you Zeba. Thank you Stimson for the invitation to join that wonderful event, for being part of the product we are launching today. I think it is a fantastic product. If 20 years ago when I was a student in humanities, I had this product to guide me through an area I was interested in but knew nothing about, I would have been in a really happy place. In the end, now I'm a professional researcher. I do not teach, but I see the value of something which is designed for the next generation. I think that is really important. It is very important also to focus on the facts. When you are looking at complicated questions around deterrence, around the way the use of force takes place, it is very important to have the basics before you start looking at dynamics, before you start looking at perceptions. What this course does is provide the basics about the

technology, how it is used, how it has been used in the past, and it is all very didactic and really very useful.

The extension to this, in terms of purpose, is that we live in an age where geopolitics has different points of entry. You could look at economics. When I started my career, you could look at terrorism. That was the biggest point of entry thematically into reading the world as it is. Missiles increasingly now are the point of entry, and they have the beauty of being quite a versatile concept which travels well across boundaries, I mean metaphorically and politically speaking. You can have conversations. Everyone knows what missile is. It fosters a general conversation which is grounded in facts. That is really, really, I think, very important. In all, even if you are not interested or you feel you are not interested in missiles, I think we live in an era where missiles are interested in you. This is the course for you.

Zeba Fazli: Could not have said it better myself. Haleema?

Haleema Saadia: Thank you so much, Zeba. Thank you to Stimson and the South Asia team for including me in the course as well and also for this event. I will echo Antoine on this, that I wish I had a course like this when I was learning about these very complex issues. For students who are now learning about missiles, about nuclear deterrence, about strategy, this would be a key course to follow. What I especially appreciate about this course is that it is designed in a way to cater to audience with varying levels of familiarity with missiles. It also ensures that it is accessible and also informative for a broad audience.

What I really like about this course is that it is structured, follows a logical progression from introducing the very basic concepts and gradually moving towards the role of missiles and in deterrence strategies and impact on regional security. This leads to a more in-depth understanding of missile technologies.

Zeba Fazli: Thank you so much, Haleema. It means a lot, especially as you and Antoine are featured in the course as well. I am excited for students to learn from you all as well as from the panel today.

One of the themes highlighted in the course that a lot of you have gestured towards just now is the greater integration of missiles into military strategies at all levels, not just for strategic deterrence, but also for tactical uses in conventional conflict, for example, in the war in Ukraine. It is possible that this might hold true for any potential wars in Southern Asia. How and why do we see this trend playing out and what might these implications be for security and stability in this region? Let us reverse the

question order. We will start with Haleema, then go to Antoine and then Debak.

Haleema Saadia: I feel like missiles have been a very powerful and highly desired tool of state power ever since their inception. For the first five decades, since 1945, missiles were associated with only WMDs and were largely seen in countervalue roles. This was mainly due to two factors. One, the limited accuracy of the missiles and also an imperfect guidance systems. But as technologies have advanced, missiles have improved in accuracy, and there are three key developments associated with this particular trend. One, the association of missiles with WMDs has weakened. Secondly, missiles are increasingly being used in a conventional role. Thirdly, their war fighting utility has also increased. Keeping that in context, missiles will play a crucial role in future armed conflicts in Asia. There are some obvious advantages of using missiles, for example, through precise targeting of the adversaries military installations and infrastructure, collateral damage can be minimized.

Since missiles can cover long distances, militaries can engage targets beyond the range of traditional artillery and ground forces. For example, Pakistan can launch a missile from its western borders and still be able to hit military targets inside India. Because missiles can carry different types of payloads and can engage a variety of targets, they inherently promote flexibility for a tailored response in different operational scenarios.

Now as for your second question regarding the implications for security and stability in South Asia. On one hand the advanced missile capabilities contribute to deterrence and may in turn enhance regional stability. But on the other hand, as countries seek to outpace each other in terms of capabilities, the arms risk dynamics can create regional imbalances. Use of missiles can also lead to the risk of escalation and would require effective crisis management mechanisms. Swift and clear communication channels as well as diplomatic efforts to deescalate tensions would become critical to prevent conflicts from spiraling out of control. Also, states that rely heavily on missile technologies may become vulnerable to technological disruptions, for example, from cyber threats or electronic warfare.

Antoine Levesques: I agree with everything which was said by Haleema. I would add that in the South Asia context, there is political messaging which comes with the use or the threat of use of missiles. Now, I should preface this with the fact that there are missiles and missiles, and a ground attack missile, a tactical ground attack missile on an airplane is not exactly the same as a ballistic missile. So there is a question here of definition, and we are here to be didactic and be specific. This is a general question, but if we look at the higher end capabilities, the cruise missiles or the ballistic missiles which have strategic value attached to them, they carry inherent political

messaging to the adversary, India or Pakistan, depending on who is thinking of using them, but also the rest of the world.

That is because there is actually, in the history of South Asia, been very few instances where missiles of a strategic value have actually been used or contemplated for use. We are still in a region where the acquaintance with the grammar of running a crisis using missiles is very new. That poses interesting questions in terms of how interpretation of various acts, well, various declarations of intent can take place, but also it causes the possibility that there might be misinterpretation, misunderstandings. But it is very hard to get into specifics because I think it is context dependent and it is capability dependent, but I think that is an important aspect of the overall picture which Haleema gave us.

Debak Das:

Perfect. I will just add from the military use perspective, it is clear why missiles are getting such a lot of airtime now. Missiles are easier and cheaper to produce than traditional manned aircraft. In comparison to a fighter bomber which might be able to achieve the same kind of objective, missiles ensure that you do not have a pilot who is being shot down when you have an airstrike or because of air defenses on the target.

There is also that missiles are more dispersible than aircraft are. You can hide them under the ground, you can put them in submarines and put them out at sea. So they are more dispersible in a way. Traditional manned aircraft can be more targetable because you need runways, you need some form of airports.

Finally, in terms of implications, it is important to know that as we develop more usable missiles, missiles with shorter ranges, in the nuclear context at least with lower yields, in a conventional conflict you might actually land up using some of these missiles. You are seeing this being used in the Russia-Ukraine war. As you start using some of these missiles, what is going to stop that from escalating further? That is one important implication, escalation control and the inability to be able to have escalation dominance. The second, of course, is accidental launch. We have seen this in the India-Pakistan context. What happens when you have an accidental launch of a missile? And this time around it is actually not without a payload. Do you see a response on what kind of escalation spirals might we see then? I will stop there.

Zeba Fazli:

Thank you all. Debak absolutely the 2022 BrahMos accidental launch certainly looms large over any discussion, especially now of missile technologies and their implications in Southern Asia. Something else that you have gestured towards is the problem of conventional and nuclear entanglement for missiles. Those that can be outfitted with either conventional or nuclear warheads.

For all of you, I am curious what you think that Southern Asian states are perceiving the challenge that the entanglement problem poses, especially as it affects those inadvertent escalation risks. Following from that, if there are any CBMs that you might suggest to help manage those risks. This time, let us start with Antoine, then go to Debak, then to Haleema.

Antoine Levesques: Thank you. You have to go country by country, I suppose. Clearly, there is some value seen in China and in Pakistan in ambiguity and entanglement. I think India understands the value of ambiguity, but as far as my research tells me, there is very little, if any entanglement at all, because the strategic forces of India are quite separate from the conventional forces. Now, if you have a capability which you assume could have multiple types of warheads, including nuclear ones, it does not mean that in practice in the way the missile is inducted into service carries both. The separation in the Indian case is very, very clear and should not be forgotten in that sense.

The broader point I make is around ambiguity. Ambiguity is constitutive of strategy. It is a resource. It is a tool which you use to affect the outcomes of your behavior vis-a-vis adversaries. And so we cannot expect states to do away with ambiguity, but we can expect them to understand the effects of ambiguity, and especially the effects it can have in terms of firing a missile which is stated to be dual-use in a circumstance where it is not clear whether it might be one or the other type of warhead coming your way. It is important to keep on asking questions about this, but it is also important to clarify organizations and the role that forces can have whenever possible.

Zeba Fazli: Debak, on to you.

Debak Das: All right. I mostly agree with what Antoine just said. To the extent that we know what states are thinking about, and I am going to talk about India and Pakistan here. Pakistan's policy of maintaining strategic ambiguity as Antoine has pointed out, means that there has been less public pronouncement on separation of nuclear and conventional missiles. India, to its credit, has actually said that the integrated rocket forces will be conventional and nuclear missiles will continue to be under the Strategic Forces Command, the SFC. That said, given that the integrated rocket forces are so new, we do not necessarily know if the same types of missiles will be deployed in a conventional role and then separately in a nuclear role. Do you have an Agni-P missile with the conventional role and then with the nuclear role? Those are things that need to be clarified, but let me disagree a little bit with Antoine on the ambiguity being a core part of strategy issue.

I do not think that is not the case. I think that is the case. I do not think it has to be the case. For CBMs, issuing white papers on plans of strategic force projection, what your goals are is an extremely important one, and it does not have to be bilateral. It can be a unilateral action that a state can take. If your plan is ultimately to deter the enemy, there is no point in keeping your intentions dark to the enemy, right? Forgive the paraphrasing of Dr. Strangelove here, but the whole point of having a sophisticated nuclear delivery and missile force is to actually, from a deterrence perspective, there is no point in having it if you do not actually tell the adversary what your plan is to do with it or what you exactly have. So I think if you are thinking deterrence, if you are thinking conventional or nuclear deterrence and signaling, then more clarity might help you get there better than ambiguity and it might make you safer. Thanks.

Haleema Saadia: I will first talk about the risk associated with dual-capable missiles, and then perhaps I will link up with the discussion regarding strategic ambiguity. The whole idea of inherent ambiguity of dual-capable missiles, would make it challenging for adversaries to discern each other's intentions during a crisis situation. It will complicate decision-making. It can also increase the risk of miscalculation, and it does have the potential of leading to inadvertent escalation where a response to a perceived nuclear threat triggers a larger conflict. This also becomes really, really important in case of India and Pakistan who are nuclear neighbors, very short reaction times, and then you add in another challenge of ambiguous or dual-use, dual-capable missile systems, then that means that the decision makers will have a very limited time to assess the nature of the missile threat and formulate a response.

This pressure to take quick decisions in high stakes situations would heighten the risk of errors in judgment and could potentially lead to unintended consequences. Now linking this with the issue of strategic ambiguity. So there are perhaps two ways to look at it. One is strategic ambiguity regarding a nuclear posture regarding your red lines. There Pakistan's strategic ambiguity has kind of strengthened its deterrence. But having said that, the ambiguity regarding the nature or the character of the missiles, that is problematic, that is going to have severe consequences for risk reduction, for escalation during a crisis situation. Now, I am not sure if you also asked about a question about CBMs, to deal with it or not?
Zeba?

Zeba Fazli: I did, yes. If you have any thoughts, very curious.

Haleema Saadia: With regards to CBMs, one, Pakistan and India already have an existing CBM regarding the pre-notification of ballistic missile tests. I think that needs to be expanded to cruise missiles as well, and perhaps that would have affected how Pakistan responded or what happened last year when

the BrahMos missile was misfired if cruise missiles were also covered under the scope of that agreement. Then there is a need to strengthen crisis communications. Already, there are some existing hotlines between Pakistan and India, but the point is that they need to be put to use during a crisis to prevent misunderstandings. There needs to be a clear designation in the role of different missiles. India has done so in context of the integrated rocket force and Pakistan should also perhaps consider delineating or separate roles for its missiles.

Zeba Fazli:

Excellent. Thank you all so much. We will start audience Q&A in about five-ish minutes. We still have time for a couple of more of my questions. So if you do have questions from the audience, please do submit them.

First, as Elizabeth mentioned, and I think we have been dancing around this morning, a couple of weeks ago, the U.S. Department of Defense released its annual report on developments regarding Chinese military strategy and capabilities. They report the construction of new silo fields for solid-fuel ICBMs, the development of new liquid fuel ICBMs, including ones that can carry multiple warheads as well as increasing the pace of development of new nuclear warheads.

Attention here in D.C. has been focused on how the U.S. is or should respond. There is also the question of India's strategic posture and missile developments that are increasingly oriented towards deterring China. What might ongoing developments in China's missile and nuclear weapons arsenal mean for India and for Southern Asia more broadly? I will direct this one for Debak and Antoine in particular. Debak, you want to go first?

Debak Das:

Thanks for the question. This is something that I have thought about a little bit over the last couple of years as the news of China's increasing missile silos and developing missiles has come up. What can the Indian response be? There are a couple of things to note here. First is, I do not think this necessarily from a nuclear perspective changes the strategic balance for India. Since 1964, which is when China first tested nuclear weapons, India has had a historical asymmetry with China with regard to strategic forces, nuclear forces, as well as missile forces. So in that sense, this is a historical asymmetry that India has managed for the last 50 years and it does not change the status quo for it.

That said, also the second thing to remember is if India's policy is credible minimum deterrence, then you have got to believe that. If you are going to believe that you believe in credible minimum deterrence, then it does not matter whether China has 500 nuclear warheads and missiles versus 1,000 because your doctrine depends on strategic second-strike survivability. Again, if that is true that India does not necessarily need to respond, I

think the larger concern for India here is that if these missiles that are being put, and we do not necessarily know if all the silos have been filled up, whether it is a shell game with some empty silos, some filled up, but if these missiles are being used for conventional targeting purposes, now that is more worrisome for New Delhi.

It is complicated because given that the PLA rocket forces do not necessarily disentangle their nuclear and conventional forces, I think India will have to think about what it can do in a conventional war in order to be able to mitigate the conventional missile asymmetry between it and China. The response we are seeing is that India is trying to build up more missiles with the ranges to be able to target China as well as use across the border. Slightly destabilizing, not ideal, but from a nuclear perspective, at least still stable.

Antoine Levesques: I agree with that. The key to all this is India and China's mutual belief in their NFUs, no first use pledges. As long as China holds by its statement, and regularly we have official public reiterations of that statement, I think India is in a good place. The conventional aspect and scenario of a conventional launch of one of these strategic missiles, because it would be seen as strategic, in the current security scenario is a really farfetched circumstance. We are nowhere close to anything like this.

Now obviously, when you are a military planner, you have to think these things well ahead, but without inducing anxiety, which prompts a counter response and then a game of second, triple guessing and so on. So it is complex. I would add that there is another dimension to, a third dimension to these missiles beside the nuclear and the conventional bilateral dimensions. There is the possibility that these capabilities of China could be used in a third party location in Asia. And that, be it nuclear or conventional, would almost certainly have effects on South Asia. It is not very clear to me what the opinion of communities in, say, Bangladesh, in Nepal, in Sri Lanka think about this, but I think it is very important to consider the wider political and practical, in case of nuclear detonation, effects this might have on onlookers and bystanders who do not have these capabilities and those weapons in a regional context.

Zeba Fazli: That is such an important point. Thank you so much, Antoine. Haleema, do you have anything to add on this question before we start on the audience Q&A?

Haleema Saadia: I do not want to add to anything to this question, but I do want to respond to one or two audience questions.

Zeba Fazli: Absolutely. Let us get started. First, one question that we received is how does the speed and maneuverability as well as payload diversity impact

strategic equilibrium in South Asia considering the geographical proximity that already shortens potential reaction time and decision-making time? That is open to the panel. Haleema, do you want to take the first stab?

Haleema Saadia: This is something that I alluded to in my answer to an earlier question. Once you have two nuclear armed neighbors and they have a history of being involved in armed conflicts, all of these examples that you alluded to, they complicate, one, the deterrence situation, and they complicate how the crisis would play out. They also alluded to taking measures for nuclear risk reductions and also perhaps it should also involve some thinking on part of states how they would manage a crisis situation. That is what I want to say in response to that.

Zeba Fazli: Antoine, Debak, anything to add?

Debak Das: I will just add that with speed and maneuverability as well as diversity, you have obviously got states, especially in India and Pakistan, trying to ensure that they have matched each other on every level of the escalation ladder. In that sense, from a deterrence optimist perspective, you have stability. The instability that comes from that is that the chances of accidental use of inadvertent escalation becomes higher. There is two sides to this coin, and those are the kind of payoffs that we are looking at.

Zeba Fazli: Antoine, over to you.

Antoine Levesques: Thanks. Actually, I do have a point. I mean, basically these new refinements or these, actually they are old refinements, but with new technologies to the capability of different missiles creates a really complex set of planning and resource allocation questions for governments. At the time when technology is re-enabling at a very fast pace new developments or new capabilities in terms of use, governments are having to think really hard about which baskets they are putting their spare resources to in the hope that the capability will be of some use later on down the line.

And I think the acceleration of technology, which comes usually with a very high price tag, is forcing governments in South Asia in particular to make some pretty hard decisions about some hard bets which could pay off, but also not pay off, on which technologies to invest in on the premise that they have assessed that this will be meaningful and useful at some point in the five to 10 years or 15 years, hence. And these are really difficult decisions based on the fact that we have all sorts of prosperity constraints which come into play, particularly in South Asia, say, unlike China so much, Russia to a different extent, and certainly European and U.S. nuclear weapons states.

Zeba Fazli: Thanks everyone. Speaking of the cost question, we have gotten a couple of questions and comments about drones. So one particular question I will ask to whoever wants to answer is, given the cost of missiles, does their expansion also drive a growth in drones, especially swarms as both an alternative and a supplementary force? I will open it to the panel, whoever wants to take the first crack at it.

Debak Das: I can take the first stab at this. I think yes, drones and swarms of drones might be useful, but you have got to think about in what context might they be useful. In a conventional interaction between, say, India and Pakistan at scale where you are having just interactions across the border, yes, you might have drones being used and swarms of drones being used, but when it comes to more targeted attacks on the adversaries' tactical capabilities on the ground, the minute you cross over onto the other side, you encounter area defenses.

Now, swarms of drones or drones individually tend to be very prone to air defense strikes and air defense systems. In comparison, missiles might be comparatively less, I'm not saying they are not prone, but they are comparatively less prone. Your ability to strike the other side, depending on how deep you want to go, depending on how targeted you want to be, and depending on how invulnerable you plan to be, those things come into play when you are thinking about drones versus missiles. So drones limited usefulness in interactions which are short as well as along the border and not across the border. That is what I would say.

Antoine Levesques: Just to add to this, and in line with my previous comment, I think missiles in South Asia carry a very specific political message, which I do not think drones do. Also in terms of lethality, in terms of seriousness of the intent and potentially of the kinetic effect, the destruction. In a context where restraint remains important and has beyond display in the subcontinent, drones might feature highly on the list of potential tools for use of force, simply because they allow for more proportionality of the response with a plus if necessary, if intended escalation is decided. At the same time, they do not carry the same sense of political heft and seriousness, which comes inadvertently with missiles.

Zeba Fazli: Fantastic. Another question we received gestures toward what Debak mentioned earlier regarding the 2022 accidental launch of the BrahMos from India and into Pakistan.

So to anyone who wants to answer about the response of both Indian and Pakistan in the aftermath, how has it affected deterrent stability or potential crisis stability between the two countries? Anything else you would want to add on that? Haleema, yes, go ahead.

Haleema Saadia: This particular incident for actually saying it quite plainly, these are the kind of fears or these are the kind of concerns that were raised many times before, the accidental launch of a missile, and what that could do during peacetime or perhaps the impact of such an instance in a crisis situation. Now, thanks God, once this accidental launch happened, it happened during peacetime. Also, the missile fell in the outskirts of a smaller town, and as such there was not any loss of life per se. But having said that, what if the missile had fallen on a big city? What if it had resulted in a loss of life? What if it was a crisis situation? The response from the Pakistani side would have been very different on all of those cases. Again, having said that, I think both countries, they responded well to that situation.

It did not turn into a crisis, which is quite heartening to know, but I still think there was an opportunity lost there to build trust. For example, foreign secretaries of both India and Pakistan have a hotline available. The Indian Foreign Secretary could have just picked up that phone and called his Pakistani counterpart to allay the concerns to talk about that this has happened, it is an external launch, and perhaps that would have built trust from the Pakistani side as well, but that did not happen. So that was a lost opportunity.

Having said that, I think it is really important that the two states, one, move on to having some sort of sustained nuclear dialogue and think of and talk about measures to reduced risk from these accidents. Also, they should be able to handle these kind of crisis situations without intervention from or without resorting to asking an extra-regional power to intervene.

Zeba Fazli: Thank you, Haleema. Antoine, Debak, anything to add on that front?

Antoine Levesques: Yes, I think it is significant that as far as the public record goes and beyond that reporting in the press goes, I do not think there was any coordinated communication between the two countries. That is just a point of fact, which reinforces the point Haleema made. I think it is really quite important to therefore recognize that chance, or at least circumstance may have had an ameliorative effect on that particular episode. That cannot be taken as granted the next time around if there were to be one. There has also been an interesting set of narratives coming out of Pakistan following that event, which, it is interesting to me that India and Indian voices generally have not sought to really engage with. That tells us that there is a shared sense that a dramatic outcome was spared and that was fortunate.

But I think we have two sides which are well considering that they did the right thing. So it is not clear to me whether the right lessons have been learned. We have obviously seen some measures taken on the Indian side, but I think the lessons taken is exercise is very, very important. For us sitting in the outside of both systems, I do not think it is something we can

have an insight in. We can only have the expectation and the hope that the right lessons have been learned on either side.

Debak Das:

And I will just add, I agree with that assessment and I agree with Haleema that this was a missed opportunity as well. I will just add that we think at least that India has taken measures to ensure that something like this does not happen again. Hopefully, this has sort of happened in Pakistan as well with safety and security of its forces. The thing is, this is not an India-Pakistan issue, either. The Cold War history is replete with examples of accidental loss of nuclear missiles to detection of launches which just did not take place.

Just a quick note to say this is not necessarily a South Asia issue, it is a broader issue with regards to missiles, how you handle them, your ability to control their launches. As we see more missile proliferation throughout the Indo-Pacific as well as in the United States, we need to be thinking more about what we can do to mitigate these sort of events from taking place, as well as ensuring that what kind of dialogue systems can you actually have in place to deal with situations like this?

Zeba Fazli:

Thank you Debak. That brings us to the hour. I could have gone on forever. I'm sure our audience could have as well. But thank you all so much for joining us this morning, this afternoon, this evening. It has been a pleasure learning from you all and I look forward to continuing the conversation in other venues.

To our audience, thank you so much for joining us today. Again, please do check out Missile Technologies in Southern Asia, the course, which is live at www.stratlearning.org. Thank you again and have a wonderful rest of your days and evenings.