MIAN: Thank you Lacie. Thank you everyone. Before I begin my presentation about the growing danger of nuclear war in South Asia, which is what I was asked to speak about, I have an obligation to express my disagreement and dismay at the comments by Representative Johnson.

It's a sad but important testament to the state of the nuclear debate among U.S. policymakers that a person who feels it's okay and worth coming to speak on the topic of the need for a fundamental change in U.S. nuclear weapons policy basically reiterates one of the worst decisions that the United States nuclear policymaking process has generated in 50 years.

And the reason I say 50 years is that the last time we had this kind of nonsense was under Reagan, right? This massive commitment over decades to build a new generation of nuclear weapons and the new capabilities those weapons can provide. And this casts a shadow across the whole world and for generations to come.

This plan for modernization is going to take decades to put in place and the new weapon systems that will be created will last many decades beyond that. We are talking about potentially another nuclear century as a consequence of this decision and the fact that you see people of good heart and good conscience like Representative Johnson feeling that they have to this balance. "Oh, it would be nice to have a nuclear weapon-free world but we have to have this modernization of the nuclear arsenal at the same time." You know, it shows how far we yet have to go. And where the U.S. goes others will follow. So, with that comment, let me talk about the growing danger of nuclear war in South Asia.

And part of what motivates myself and, you know, others here and, you know, I'm looking forward especially to the comments by Josh Pollack and Dingli Shen is that U.S. policy is actually the center of all the places where nuclear war may actually break out. And that in itself is a significant observation.

So, in the case of South Asia, I want you to take a minute to look at this picture. This was taken by an astronaut on a space station. And the orange line that you see crawling up the picture is the border between India and Pakistan. This is India. This is Pakistan. This is the City of Karachi which is home to 20 million people. One out of 10 Pakistanis live there, right?

And the reason that this is all orange is because the whole border is fenced and lit up, and it's the only border they say that you can actually see from space. And all the lights that you see on the Pakistani side --
those are the cities and towns and industrial areas along the Indus Valley. The vast majority of Pakistan's population live there.

That tells you how close Pakistanis are to the border with India and that this is a border where there already have been four wars. No other pair of nuclear weapon states have this multiple set of problems of geography and history and conflict. And I'll take a few minutes to say why many of these things are getting worse.

So, Hans Christiansen generated this figure a little while ago and this was his best estimate shared by many in the community about Pakistan's nuclear structure. And if you look, this is the same border and you see all the little missiles lined up along that border pointing towards India.

And if you think about this simple question about how far it would be from these missiles and these bases to cross the border, we are talking about literally minutes -- less than five minutes for a missile from a Pakistani side to reach the capital of India or vice versa.

And so the idea that you have any time to deal with a crisis where the threatening use of nuclear weapons is seen to be real is a fantasy. There will be no warning. And there will be no time to respond, and everybody will panic at the first signs of what they fear may happen.

So the paths to nuclear war are well trodden in some regards in South Asia and they are quite transparent. So, as I mentioned, Pakistan and India have had wars in 1947, 1965, 1971 and 1999. The first one was actually within months of independence of the two countries. And as many of you know, this was the first war over Kashmir and it left the situation unresolved with Pakistan taking some territory and the Indians having some territory in Kashmir.

1965 was an attempt to resolve that and then finish business - it didn't change very much. 1971 there was another war. 1999, there was a fourth war. And each one of those wars has left behind a generation of military officers, especially in Pakistan, itching to get even for the last one.

So, to just give you a sense of how biography and time play a role in this, in the 1971 war there were 90,000 Pakistani prisoners of war, soldiers who were taken captive by the Indian forces. Among them were people who then after the war and after they were freed became senior generals in the Pakistan Army.

Included in them was General Khalid Kidwai, who was the general in charge of Pakistan's Nuclear Weapons Program from 2000 until 2014, right? You can imagine what the experience of having been a prisoner of war in India in 1971 as a young officer was? A sense of defeat, of humiliation, of captivity and there's an entire generation of military officers who carry that grudge. When you talk to them the determination to get even one day is overpowering.

Now, because Pakistan has failed to prevail in all of these past wars and India has overwhelming conventional superiority in terms of the size of its army tanks and other conventional capabilities, Pakistan has resorted to the threat of use of tactical nuclear weapons to compensate for Indian conventional superiority, and Pakistan is perfectly transparent and explicit
that if Indian forces cross the border into Pakistan or look like they are about to do so Pakistan will use nuclear weapons on the battlefield to change the course of battle.

India has seen this and has responded by beginning vast military exercises with tens of thousands of soldiers, tanks, artillery -- what you would look for if you were going to invade Pakistan. And in these exercises, they include the possible use of Pakistan's tactical weapons on their forces and they rehearsed how would they deal with it and keep fighting, right?

So already they have crossed the threshold that okay, you are going to do this so we are going to figure out how to overcome this and keep going. And the most recent exercise of a large scale in India that included this simulation was in 2016. And the Indian nuclear doctrine that has been officially articulated by the Indian government says that India will use its nuclear weapons to retaliate against a nuclear attack on Indian Territory or on Indian forces anywhere.

This was interpreted by many to mean that Pakistan may even use nuclear weapons on Indian forces after those forces have crossed into Pakistan and Pakistan is feeling that it's losing the tide of battle. This retaliation will be massive and designed to inflict unacceptable damage.

I actually debated a former head of Indian nuclear forces in Washington, D.C., not so long ago. And I asked him "So, what does massive damage and unacceptable damage mean to you? So, Pakistan uses nuclear weapons on your tanks -- you said massive retaliation. Will you bomb Pakistan cities with nuclear weapons?"

He said, "Yes." I said "Let me be clear. They use nuclear weapons on tanks and soldiers. You will kill civilians in Karachi, 20 million people, Lahoire, Pakistan's second city, Islamabad, Pakistan's capital?" Without blinking, he said, "Yes, that this is what deterrence requires. That if we say this then hopefully they will not do this."

And there is the possibility that India may seek to preempt Pakistan's first use of nuclear weapons to prevent this possibility coming. The Pakistani response to the Indian threat of massive damage is that this, and I quote, this is from General Kidwai. He was in charge of Pakistan's nuclear complex. He said "This is bluster and it would be a blunder."

In other words, "We don't take your threat seriously. We are going to do what we're going to do and we will retaliate if we have to."

So, both sides have put in place exactly the pattern of escalation and posturing that we are familiar with from nuclear history. That means that once things start to go wrong everybody thinks that they are trapped by their previous commitments and then it all goes wrong really badly really quickly.

And it's not just words. There are capacities to do this that are actually in place now. Pakistan has been testing short-range battlefield nuclear weapons. It also has tested in January of this year a submarine-launched cruise missile and it tested for the first time a missile that is capable of carrying multiple warheads, right?

Not all of these are ready to enter into service right now but Pakistan has previous systems that have already been developed. But these are systems
that are definitely on the way into service right now, especially the cruise -- submarine-launched cruise missile.

And Pakistan's longest range missile is going to be almost 3,000 kilometers in range and when I tried to work out why Pakistan would need a missile that has that range this is the answer I think. And that is that this is the flight path for a missile flying from ISB which is Islamabad to the Andaman and Nicobar Islands, which is an Indian Territory way out there in the middle of the ocean where India has said it plans to put a strategic base.

We think that this may be a base for Indian nuclear submarines in the future. And Pakistan says "You're going to put nuclear forces as far from Pakistan as you can possibly get, then we will build a missile that will reach you. You will not be safe anywhere."

And so, this is the kind of scale of the planning and capabilities that are being built. And the reason for India putting these kind of capabilities out there is that India has a nuclear submarine which is both nuclear powered and is to be nuclear armed with 12 submarine launched ballistic missiles.

One reason Pakistan is building submarines that will be able to launch nuclear armed cruise missiles is so they can have nuclear weapons at sea. And it's also been testing 5,000 kilometer range ballistic missiles. The final experimental test of their Agni-V missile was in December 2016. And we presume it is now on the verge of being able to enter service.

So, lots of capabilities have actually been developed to fight a nuclear war on a very large scale, and the estimates are that they have more than 100 nuclear weapons each and the material to make more being produced actively as well as some in stockpiles.

So, the immediate flashpoints for war -- there are two. The first is this dispute over Kashmir. And in recent years we have seen Pakistan go back to its policy of supporting militant nationalists and Islamists to carry out attacks on Indian forces in Kashmir. Previously, there were attacks on Indian cities elsewhere including the very large attack on the City of Mumbai in 2008.

But in September 2016, militants crossed over from Pakistan, attacked an Indian Army base, killed 18 soldiers. And India carried out reprisal attacks across the border into Pakistan against what India said were the launch pads for these militant attacks. And this created the beginnings of a new crisis dynamic where India publicly acknowledged reprise, military reprisals that it was carrying out these.

There have been attacks across the border by India before in reprisal against Pakistani attacks but they were kept quiet. And so the question is, what happens when that happens and Pakistan then has to respond in its own way to such an attack cycle? And the Kashmiri militants are itching for war, a big war that they think will resolve this issue once and for all.

So, one of the most bloodthirsty of all of them, Sayeed Salahudeen, the head of the Kashmiri Militant Group Hizb-ul-Mujahideen, which has been around for a very long time said, and I quote and these are his words that "If Pakistan provides support there is a great chance of a nuclear war." Right? That they think that by pushing this crisis forward and accelerating the
tensions that eventually the two countries will be forced into some kind of settlement over this.

The last flashpoint is one that has become increasingly evident to many of us. And that is this crisis over water between India and Pakistan. So, in 1960, India and Pakistan signed the Indus Waters Treaty, which regulates the sharing of water between Pakistan and India because the headwaters of the Indus River come from the Himalayas. Some of them come through the Indian part of Kashmir, some through the Pakistani part of Kashmir.

And so the treaty allocates the waters appropriately between the two countries as they agreed to. And India can have dams and use the water on the rivers that pass through Indian Kashmir until those rivers cross into Pakistani territory.

And the amount of water they can use is agreed on in the treaty. But since about 2000 -- 2001, India has begun a process of building a large number of dams on those rivers in Kashmir that flow from the Indian-held part of Kashmir into Pakistan. And this map actually shows some of these dams.

So, these are all the spots in Indian-held Kashmir on the rivers where the Indians are building dams or planning to build dams. And there are dozens and dozens of dams that are under construction and in the planning. And one of the things that we've already seen just in the last few years is that when you build a big dam then you start to fill the reservoir. That means that you block the flow downstream until you fill the reservoir.

And the first big dam that India built where they stopped the water to fill the reservoir -- it actually created a massive crisis in parts of Pakistan because the water stopped coming. And the Pakistanis are petrified that with these dams India will be able to control the flow of water to Pakistan, which is fundamentally an agricultural economy and needs water for the agriculture industry and rapidly growing population.

And so in September 2016, after this Indian Army base was attacked by these militants that came over from Pakistan with Pakistani support, the Prime Minister of India made a blood-chilling statement. He said "Blood and water cannot flow together. You send terrorists? We will shut off the water. Blood and water cannot flow together."

This was interpreted in Pakistan as a direct threat. And the Pakistani response was that "If you violate the Indus Waters Treaty, if you stop the flow of water, we will treat this as an act of war," right?

And this problem is going to recur and it's going to get worse as climate change begins to melt the glaciers in the high Himalayas and the flow of water becomes less predictable and eventually over time scarce. And there will be increased water competition at the same time as there is increased demand for water.

We could have stopped all of this. After the nuclear test in 1998 there was a unanimous resolution of the United Nations Security Council, Resolution 1172 that said that Pakistan and India must stop their nuclear weapons development, stop testing nuclear weapons, produce no more material that can be used to make nuclear weapons.
And then 9/11 happened. And the Chinese happened. And the United States decided that it was more important to have Pakistan's support in Afghanistan to fight Al-Qaeda and the Taliban than to worry about their nuclear weapons. And it was more important to recruit India as an ally against China so never mind India's nuclear weapons program.

So for almost 20 years, the U.S. has had other priorities. Rather than worrying about the growth of nuclear weapons capabilities and the drift towards war and the crises in South Asia, the priority has been Afghanistan, Al-Qaeda, the Jihadists and the rise of China. So, as a consequence we now have the much more catastrophic possibility of nuclear war in South Asia than we otherwise would have had. Thank you.