Ladies & Gentlemen

I would like to start by thanking International Pugwash and Pugwash UK for honouring me with this privilege to speak to such distinguished audience at such prestigious institution, The Royal Society, on Weapons of Mass Destruction and Terrorism. Today, we gather here to commemorate the 20\textsuperscript{th} anniversary of awarding the Noble Prize for Peace to Pugwash/Rotblat for their tireless efforts to raise awareness to the threat of nuclear weapons to humanity at large.

We should also recall that this year is the 70\textsuperscript{th} anniversary of dropping nuclear bombs on Hiroshima and Nagasaki, and 60\textsuperscript{th} anniversary of Russell-Einstein Manifesto calling upon the international community to eliminate nuclear weapons and renounce war.

**Personal Journey**

Personally, I am humbled to speak about my journey, but that is what I was asked to cover in my presentation. In December 1979, I had to make a choice: either to work for Saddam on his nuclear weapon programme, or pay a price. The choice was simple, and the price turned out to be reasonable: 11 years and 3 months in prison.

When I made that choice, it didn’t cross my mind that I would explain my decision to such distinguished gathering. Then, I was more concerned with how to explain myself to my interrogators.
When I explained to Saddam’s Head of Security that my scientific training was not in the field of bomb making, he forcefully told me that “It is a man’s duty to serve his country” and that “those who do not abide by this precept do not deserve to be alive.” I nodded that I agreed that it is a person’s duty to serve his or her country, but I had a different understanding of what constituted a service to my country. I was then taken into solitary confinement, where I was to remain for ten years.

My understanding, then and now, is that WMD do not provide any country with unchallenged security. On the contrary, these weapons set off an arms race that not only make the country more insecure, but also endanger the world peace. For me, the issue is also ethical. I believe there are moral responsibilities that scientists must adhere to, particularly in this dangerous era of weapons of mass destruction.

Science and technology have been affecting the lives of all peoples of the world. Scientists have been revered for their contribution to the expansion of our frontiers of knowledge and for improving quality of life for many on this planet. Our generation is thus the custodian of the tirelessly earned recognition, respect and authority accrued by many generations of scientists.

Our duty as scientists is to ensure that our discoveries and achievements are used for the benefit of mankind; to improve the quality of life of as many people as possible, to prevent further damage to the environment, to find means to regenerate our planet and make life sustainable for human beings and all our co-inhabitants on earth. Our meaningful survival depends upon these traditional ideals of science.
I would like to salute, from this podium, all those who have contributed to achieving the historic agreement in Paris last week on protecting the planet from excessive emission of CO2 that has led to global warming.

Returning to the anniversary that we are celebrating, Pugwash has played an important role in directing attention to the dangers that the nuclear weapons constitute to our planet, and its efforts were recognised by awarding it the Nobel Prize for Peace.

The threat of these weapons has greatly diminished in recent years, particularly after the accord on the Iranian nuclear programme. We must commend Iran and its interlocutors, the IAEA and the Group of 5+1, for this historic achievement, and would like to appeal to them all from this platform to implement the agreement in full and in good faith. This is a goal that Pugwash should pursue with vigilance and persistence.

There is no region in the world now as volatile as the Middle East, and presently the security environment is seriously challenged by many negative factors: the rise of Daesh, impasse of Palestinian peace process, growing political instability and the threat of WMD. This situation represents a serious threat to both the Middle East countries and the rest of the world. The terrorist attacks in Paris and California can be repeated anytime in any city in the world.

The urgency for elimination of all weapons of mass destruction from the region cannot be over emphasised. The UN has recognised this situation, and the Security Council passed a resolution over four decades ago in 1974, calling for Nuclear Weapons Free Zone (NWFZ) in
the Middle East. Ever since then, the Council has passed a resolution every year calling or reaffirming its resolutions on this issue.

The failure of this year’s Review Conference for the Nuclear Non-Proliferation Treaty (NPT) to produce consensus document with any substance was due to disagreement on the process and timing of a conference to establish a NWFZ in the Middle East. Israel refuses to join NPT and be part of NWFZ, and it is bewildering that some western countries justify that stance. If the Iranian nuclear programme was the reason for such sympathy in the past, there is no excuse after the accord with Iran.

Also, we cannot overlook the threat of other forms of weapons of mass destruction. Like nuclear, chemical and biological weapons offer little or no demonstrable political or security benefit to those who possess them. Such weapons in Syria, Iraq under Saddam and Libya under Qaddafi and in Israel have failed to prevent military confrontation or even a regime change. Elimination of these weapons must remain a prime goal if we endeavour to save humanity and the environment.

Additional risk of keeping of WMD is that they may fall in the hands of terrorists. We have already witnessed the use of chemical weapons by terrorist groups in Iraq and Syria. In Iraq, Daesh used mustard gas on couple of occasions in the north and chlorine barrels in the battles in central Iraq. In Syria, although the regime has conceded to the removal of its stockpile of chemical weapons by the Organisation for the Prohibition of Chemical Weapons (OPCW), insurgents have managed to access nerve gases and other chemicals and have already used them on more than one occasion.
Daesh

Now I would like to turn to terrorism as a new tool of mass destruction with the rise of Daesh. In this presentation I will be using the word Daesh to refer to the entity that calls itself the State of Islamic Caliphate or more commonly known as ISIS or ISIL. I find this necessary because calling it `Islamic` is a linguistic trap intended to make us unintentionally become part of the game that the organisation endeavours to divide the world into: Muslims and Non-Muslims entrenched against each other.

Historically, Daesh is an offshoot of Al Qaida. The Syrian civil war, which started in March 2011, has breathed new life into jihadi militancy, providing an unprecedented wave of recruits for Daesh.

Currently, it controls significant territories in North-Eastern Syria and North-Western Iraq, and has nominal control over small areas in Libya, Nigeria, Yemen and Afghanistan. The organisation also has sleeping cells in more than 50 countries in the world. It is a potent danger to many societies as was amply demonstrated in the Paris attacks. In the last year and a half, Daesh carried out 83 attacks in 20 countries other than Syria and Iraq killing about 1,600 people.

In Syria and Iraq, Daesh now commands about 30 thousand foreign fighters, from more than 80 countries. Almost an equal number of locals in both countries have joined them. More than 5,000 individuals travelled from Europe to the region. The biggest numbers came from the largest European countries – France, Germany and Britain, but in relation to population-size, Belgium is far the highest. About 10% of them are females and 20% of European foreign fighters are citizens of
non-migrant origins. Turkey is the gateway for these terrorists to Syria and from Syria to Iraq.

The ideology adhered to by Daesh is extreme interpretation of Islam that was advocated by Wahhabi zealots in Arabian Desert in the mid-18th century that denounced traditional Islamic practices and considered the overwhelming majority of Muslims as infidels or false believers, contesting the traditional diversity and pluralism of Islam. The spread of Wahabism in the last four decades in some Muslim countries and among Muslim immigrant communities in the West was funded by petrodollars to gain legitimisation and political influence for some Gulf regimes.

Daesh uses extreme brutality in its campaigns including: mass slaughter, beheadings, burning prisoners alive or throwing them down from high building. They also carry out public mass executions, use rape as weapon of war, trade girls as sex slaves and have been responsible for genocide against Shia Muslims, Christians and Yazidis. However, the majority of their victims nowadays are Sunni Muslims whom they claim to defend.

It is noteworthy that they deploy the most sophisticated propaganda tactics in the history of terrorism. With the help of social media, online video and chat services, video-graphics and special effects, Daesh is just a click away from being able to reach potential recruits that are actually far beyond its geographic reach.

I would like now to ponder on the causes of this phenomenon and what can be done collectively to face this challenge to our humanity.

The root causes of radicalism, violence or terrorism among youth in particular, in the name of religion, are very complex. There is a
combination of various factors including politics, economics and teaching extremism in the name of religion. In most cases, politics seems to be the most important factor.

The nature and levels of political exclusion, perceived injustice, lack of social cohesion and unfair distribution of national wealth collectively build the levels of resentment in the marginalised populations, especially among the deprived youth, the unemployed poor and the minorities. Absence of effective platforms for these resentments to be expressed and grievances to be addressed leads to a build-up of feeling of injustice, and such communities become fertile ground for recruitment of terrorists.

The civil war in Syria served as an attraction point for militant jihadis. At the beginning, they came to help the rebels in their struggle against the Syrian regime. With the rise of Daesh, many others poured in with the illusion of establishing a just Caliphate.

Daesh quickly overrun territories held by other rebel groups and captured the city of Mosul and large areas in northern Iraq. It engaged in skirmishes with the Al Qaida-affiliated Nusra Front and other insurgent groups. All these groups have established links to some power centres in the region, where they get arms, funding and logistical assistance.

The aerial bombardment carried out by western coalition against Daesh bases and economic lifelines is very useful but not sufficient. In order to defeat Daesh and the other extremist groups, the closure of borders from Turkey is essential to cut off logistical supply routes. Not less important is ending financial support from some rich Arab countries in the Gulf.
US Vice-President Joseph Biden said in an unscripted question-and-answer session with students at Harvard University on 2 October 2014, “our allies in the region were our largest problem”. He argued that Turkey, the Saudis, Qatar and the Emirates were so determined to take down Assad that they poured hundreds of millions of dollars and tens of thousands of tons of weapons onto anyone who would fight against him – except that the people who were being supplied were Al-Nusra and Al-Qaida and the extremist elements of jihadists coming from other parts of the world.

The recent Russian military involvement has added another dimension to the conflict, and it is becoming more evident that there is no military resolution to this conflict. The longer it takes for the parties to the conflict to sit together, under UN auspices, to reach peaceful solution to their political differences that can address the deep resentment of segments of the Syrian people and the mistrust among Syrian communities, the more blood would be shed, alas mostly by innocent people, to reach the same results.

Also, we cannot overlook the historical sectarian divisions among Muslim nations in many countries. These differences have recently been stirred up for political expediency, particularly in countries where minority sect rules over majority such as in Syria, Bahrain or Iraq under Saddam. Regrettably, these sectarian divisions have been cultivated by some actors in the Middle East to redirect attention from their own political and social problems.

**What can be done?!**

Having discussed the threat Daesh presents to humanity, let us ponder what our joint responsibility to face this challenge is.
The world should realise that Daesh is a real threat to all, and not just a brutal terrorist group. The world should not have waited for two years until western cities were targeted to recognise the seriousness of this threat and to consider joint response. Daesh should be fought at the global, regional and local levels not only in Iraq and Syria but in all the one hundred countries where new jihadis are recruited.

The responsibility to dry the roots that have given rise to Muslim extremism lies primarily with the Muslims themselves. First, there is an urgent need for Muslim scholars to rethink, reform, and reinterpret certain classical and medieval texts about jihad. For that purpose the scholars and Muslims in general must irrevocably condemn any act of terrorism under any banner and for any cause. Patriotic struggle for just causes does not require terrorist acts.

Wahabi schools, mosques and religious centres in the Muslim countries and within Muslim communities in the rest of the world are the main breeding grounds for such radical rejectionist ideology that is in complete contrast to the traditional diversity and pluralism of Islam.

A young 10 year child attending a meeting at a mosque, here in London, was asked what he wants to be when he grows up. His response was that when he grows up he wants to be a terrorist. Our children deserve better education than what they get at such schools. I call on all education authorities to carefully monitor what is been taught in private schools that are funded by some gulf charities.

This brings us to the funding of Daesh and its main sources of finance. An international terrorist organisation with tens of thousands of recruits and even larger number of supporters worldwide carrying out various activities, propagating their extreme ideology, running their
well-conducted media campaign, infiltrating Muslim communities and reaching out to marginalised groups requires a scale of funding not available to typical terrorist groups.

Daesh finances its activities from several sources. The most important are: crude oil sales, donations mostly from Gulf organisations and individuals, sales of archaeological articles and taxes collected from local shops, traders and farmers. Their total annual revenue is estimated to reach more than one billion US dollars from these sources.

However, their main need for military equipment is covered by supplies received indirectly from regional actors or captured from rival rebels in Syria who are supplied with such military hardware from regional powers.

The main crude oil production that Daesh trades is from oil fields in Syria and Iraq, where production is about 45,000 barrels a day generating some $500m a year. Crude oil is smuggled out across Syrian and Iraqi borders to Turkey. Hundreds of trucks transport crude oil across these borders every day through a smuggling network that cannot be outside the sight of the watchful eye of security and intelligence agencies. Attacking trucks on the route to Turkish borders by Russian and US bombers is a welcome development.

Donations from non-governmental organisations in Gulf countries are the second major revenue source of funding to terrorist groups. Amounts vary from one terrorist group to another, but in total it is estimated that a few hundreds of millions of dollars reach them from such so-called charity groups.
Blocking financial lifeline of Daesh and other terrorist groups is paramount to weaken them. A much stricter control on bank transfer from suspected charity organisations and cash transfer across borders to Syria and Iraq is needed.

Even more important than draining financial lifelines of extremist groups is draining their recruitment grounds. Engagement of marginalised and frustrated communities by developing national policies to absorb them in the larger community and addressing the issues that agitate them is absolutely essential to deprive the terrorist from recruiting new volunteers.

Monitoring mosques, schools, social centres and NGOs that promote extremist ideologies and are fertile grounds for recruitment of would be jihadis is very important but often overlooked under pretext of freedom of belief.

Terrorism has become a major threat to security and order in the 21st century, and it demands a more deliberative and effective response. Terrorist groups can reach every corner of the globe taking advantage of interconnected international systems of communications, banking and transport. No state on its own can deal with transnational terrorism, and there is a great need for international coordination rather than cooperation to overcome this threat.

I would like to end this presentation by reporting what we are doing in Iraq to fight Daesh. When Daesh overrun large areas in Northern Iraq in June 2014, the Iraqi military units in Mosul collapsed, and the invading Daesh militia advanced in a few days all the way to Samara, a holy city 100 km north of Baghdad.
At this juncture, Ayatollah Sistani from Najaf called on Iraqi people to defend their country and protect the people. Thousands of Iraqis immediately answered the call and volunteered to form Popular Mobilisation. The total number of these units is now about 50 thousand and they are highly motivated and deeply committed to fighting Daesh alongside the Iraqi armed forces. So far, about 100 thousands sq km has been recaptured from Daesh in central Iraq.

To Iraqis, the human cost so far has been 13 thousand dead and about 25 thousand injured. Most of them were killed in mass executions of captured soldiers in the initial wave of attack, and civilians who have resisted occupation of their towns, particularly in Anbar in western Iraq. Most of the injuries were due to car and suicide bomb attacks in crowded areas. Despite these great losses, Iraqis would not stop fighting Daesh till every square meter of their homeland is freed and their brethren are liberated.

However, the world would not be safer until the organisation is totally dismantled and its recruiting routes and financial lifelines are choked. Syria, Libya and Yemen would remain attraction fields for Daesh and the like unless peaceful resolutions for the conflicts are reached and people can return to their norm of life in peace, dignity and mutual respect. This would be difficult to attain without involvement and encouragement of the international community.

The meetings in Vienna of the International Syria Support Group earlier this year where all foreign actors and supporters of various fighting groups in Syria have agreed to work together to propose a roadmap for peaceful resolution of the conflict was a good starting point, although much belated.
The coming meeting of ISSG next month, where representatives of the fighting factions other than Daesh and Nusra Front will join in, is an exceptional opportunity that should not be allowed to slip away without agreement on implementation of the road-map proposed by ISSG to set up a government of national unity that is tasked with drafting a new constitution for Syria and holding election under UN auspices within the next 18 months.

Pugwash should stand ready, as it has always been, to help reach such a transition to pluralistic, inclusive, democratic and progressive form of government in Syria and elsewhere. Peaceful resolution of Syrian crisis would pave the way to similar solutions in Libya and Yemen. This is our best way of defeating Daesh.

Thank you!