
Iran's Nuclear Power : What Do We Know?

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Introduction

The Iranian nuclear crisis has been a headache for most of the Western world for the past two decades. Iran's slow and steady progress, viewed by the outside world with suspicion, and punctuated at intervals by unnerving discoveries have made the international community anxious to reach a solution. But the world is still divided when it comes to Iranian intentions: is it really hell-bent on building a nuclear weapon? Or is the country just aiming for nuclear capability; the threshold where it can rapidly put together a nuclear weapon should it need it?

While many hawks in Israel and the US in particular believe that Iran's ultimate goal is to become a nuclear-weapon state, the official American conclusion is that Iran has not yet made the decision to go nuclear. This judgment is based on national intelligence estimates coupled with an assessment that the IAEA would be able to detect a diversion of nuclear material.

The problem is that it is impossible to be sure that governments have all the intelligence necessary to be certain about Iranian intentions. A country's capabilities and technological thresholds are quantifiable and therefore relatively easily determined.¹ In contrast to capabilities, intentions are abstract; they are the "[...] perceptions, aims, decisions and actions [...]" of a state or a policy maker.² Intentions are a great deal more difficult to ascertain.

In fact, in Iran's case, assessments of its nuclear intentions and progress, made by various states in the international community, are based on a picture which is far from complete. In the words of Donald Rumsfeld: "There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know."³

In other words, we do not know what or how much we do not know. Of course, none of this means that they are pursuing the bomb for certain, far from it, but that if they were, we may not know about it.

1 Krass, Allan S., Boskma, Peter, Elzen, Boelie and Smit, Win A. (1983), *Uranium Enrichment and Nuclear Weapon Proliferation* (London and New York: Taylor and Francis), p. 13.

2 Garthoff Raymond L. (Winter 1978), "On Estimating and Imputing Intentions", *International Security*, Vol. 2, No. 3, p. 22.

3 Secretary of Defense Donald Rumsfeld, DoD News Briefing (12 February 2002), <<http://www.defense.gov/transcripts/transcript.aspx?transcriptid=2636>>.

This article seeks to explore and explain the assessment that Iran has not yet decided to “go nuclear”. It will begin by outlining the intelligence assessment on Iran and the opposing views. The article will then examine what the intelligence on Iran looks like; its strengths and weaknesses and the methods used to gather intelligence on Iran compared to past cases of intelligence failure. Understanding where and how an Iranian scramble for the bomb could be detected will also be examined.

The assessment

Iran's intentions took center-stage once again in 2007 with the release of the controversial US National Intelligence Estimate (NIE). This official document, which compiled the US intelligence community's assessments of the Iranian nuclear programme, contradicted the widely accepted 2005 estimate that Iran was building nuclear weapons. It said: "We assess with moderate confidence Tehran had not restarted its nuclear weapons program as of mid-2007, but we do not know whether it currently intends to develop nuclear weapons.

We continue to assess with moderate-to-high confidence that Iran does not currently have a nuclear weapon."⁴

The NIE also assessed that Iran had conducted some weaponisation activities until 2003, and that this decision to "to halt its nuclear weapons program suggests it is less determined to develop nuclear weapons than we have been judging since 2005".

Findings in the still-classified 2010 update are reportedly in line with the 2007 NIE. But the new NIE did not "distinguish between Iran's declared and undeclared work".⁵ This enabled it to take a more complete view of the programme. In early 2012, the US government further outlined its position on what it judges to be Iranian intentions. In an interview in January, US Secretary of Defense Leon Panetta stated: "Are they trying to develop a nuclear weapon? No. But we know that they're trying to develop a nuclear capability. And that's what concerns us. And our red line to Iran is: do not develop a nuclear weapon. That's a red line for us."⁶

This was reiterated by Director of Intelligence, James Clapper a few weeks later when he said:

"[I]f the decision has been made to press on with a nuclear weapon—and there are certain things they have not done yet to eventuate that—that this would be based on a cost-benefit analysis.

4 Office of the US Director of National Intelligence, "Iran: Nuclear Intentions and Capabilities", National Intelligence Estimate (November 2007), <http://www.dni.gov/press_releases/20071203_release.pdf>.

5 David Albright and Paul Brannan, "The New National Intelligence Estimate on Iran: A Step in the Right Direction", ISIS Reports (22 March 2012).

6 Defense Secretary Leon Panetta, "Face the Nation", CBS (8 January 2012), see <http://www.cbsnews.com/8301-3460_162-57354647/face-the-nation-transcript-january-8-2012/>.

We don't believe [Iran's Supreme Leader Ali Khamanej]'s made that decision yet.”⁷

Both state that although Iran has made steady progress, it has not yet made the decision to develop a nuclear bomb. Despite calls for urgent action against Iran, official Israeli assessments concur.⁸

7 Testimony of the Director of National Intelligence, James R. Clapper, to the US Senate Intelligence Committee (31 January 2012). To watch the testimony, go to: <<http://www.youtube.com/watch?v=K62uv7Byn2U&feature=youtube>>.

8 See for example, David Blair, “Iran 'Has Not Yet Decided' Whether to Build Nuclear Weapon”, *The Telegraph* (25 April 2012).

Is the glass half full or half empty?

The release of the 2007 NIE caused an uproar within US policy circles.⁹ US hawks were deeply frustrated by claims that Iranian intentions were less obvious than previously claimed. Skeptics of US policy might (and did) ask: Why was the Bush administration focusing so much time and money on the Iranian threat, if there is no urgent threat to begin with?

Analysts questioned the argument that Iran has not yet decided to weaponise. Why would Iran put itself through so much pain for an incomplete end-state? Surely, in Iran's mind, being a nuclear-weapon state is a safer outcome than being in the stage before?

Hawks highlighted the significant gaps in intelligence on the Iranian programme, making it impossible to be sure of Iranian intentions: "The real differences between the NIEs (2005 and 2007) are not in the hard data but in the psychological assessment of the mullahs' motives and objectives. The current NIE freely admits to having only moderate confidence that the suspension continues and says that there are significant gaps in our intelligence and that our analysts dissent from their initial judgment on suspension. This alone should give us considerable pause."¹⁰

At the time, some Europeans also disagreed with the findings of the report. In a press briefing in December 2007, the French foreign minister outlined his country's position: "I want to say first that since 2003 the international community has based its action on facts, in particular the facts reported by the IAEA, not on an assessment of Iran's intentions. [...] We note, with the Agency, that Iran is pursuing its efforts to master enrichment technology. In the circumstances, it appears that Iran is not respecting its international obligations, and our position therefore remains unchanged. We must keep up the pressure on Iran."¹¹

In 2008, Germany made public an assessment that stated that Iran had never stopped weaponisation given their procurement

9 See for example, John Bolton, "The Flaws in the Iran Report", *The Washington Post* (6 December 2007).

10 John Bolton, "The Flaws in the Iran Report", *The Washington Post* (6 December 2007).

11 "Daily Press Briefing on US NIE on Iran", French Ministry of Foreign Affairs (4 December 2007).

patterns in the early 2000s.¹² But they agreed that there was no evidence of an Iranian decision to build nuclear weapons. Nevertheless, many countries were frustrated that this was released only two days after UN Security Council resolution 1 747 was passed, and reported that because of it, momentum for pressure on Iran would be lost.¹³ Sir John Sawer, the UK's UN envoy echoed this sentiment, stating that it would be difficult to make any progress on the Iranian nuclear file given the significant differences between the major powers.¹⁴

Today, proponents of Iran's desire to weaponise point to the findings of the widely publicized and most damning IAEA report on Iran's nuclear activities.¹⁵ In its November 2011 board report, the IAEA cites evidence that points to nuclear weapon research and development. Following this, Yukiya Amano, director general of the IAEA stated that "What we know suggests the development of nuclear weapons..."¹⁶

The information in the report was not new. Almost all of it had been reported in various media reports over the past six years. But releasing it all under the auspices of the IAEA and with additional detail, added credibility to the information. And according to hawks, the aggregate weight of the information rather than the individual parts clearly helped to demonstrate Iranian intent. Indeed, Iran's R&D into weaponisation, coupled with its advancing missile programme, continued enrichment and the secrecy surrounding its nuclear activities provides compelling evidence of its intentions.

None of this looks good for Iran. However, none of it unequivocally points to an Iranian decision to build a nuclear weapon. According to an Israeli source drawing a parallel with the requirements for a conviction under common law: "Although we have evidence of a guilty act, Iran's clear intention is missing. In order to be sure, we need an accumulation of evidence that points overwhelmingly to the conclusion that weaponisation has begun."¹⁷

Iran is currently nuclear capable.¹⁸ It possesses enough low-enriched uranium that, if further enriched, could make approximately five nuclear weapons (if it uses its current stockpile of 6,197 kg of 3.5% enriched uranium).¹⁹ But the lack of firm evidence pointing to

12 See William J. Broad, Mark Mazzetti and David E. Sanger. "A Nuclear Debate: Is Iran Designing Warheads?", *The New York Times* (28 September 2009).

13 See Resolution 1 747, UN Security Council (24 March 2007).

14 "British Envoy Rules out Early Progress on Iran Nuclear Issue", AFP (13 December 2007).

15 IAEA Director General, "Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran" (8 November 2011), Annex 1.

16 "IAEA to Press Iran over Nuclear Concerns", Reuters (19 January 2012).

17 Author interview with an Israeli official, June 2012.

18 For more information see Mark Fitzpatrick, "Dissecting the red lines on Iran", IISS Voices Blog (6 March 2012), <<http://iissvoicesblog.wordpress.com/2012/03/06/dissecting-the-red-lines-on-iran/>>.

19 Amounts based on IAEA findings in IAEA Director General, "Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions

current weaponisation indicates that Iran's current intention, as assessed by multiple intelligence organisations, is to become a nuclear threshold state.

Becoming a threshold state means compiling all the required materials and technological know-how to make a dash for the bomb within a shortened timeframe, should Iran decide to do so. There are three categories of technologies necessary:

- Fissile material: highly enriched uranium (HEU) or plutonium. In Iran's case, the most likely scenario would be the use of HEU, as its plutonium production capabilities are limited until the Arak heavy-water reactor comes online ;

- A device or warhead: the fissile material will need to be fashioned into a bomb with all the associated weaponisation technologies and made small enough to fit into a warhead ;

- A delivery mechanism: Iran's missile programme has made significant progress, and it now has ballistic missiles capable of carrying nuclear payloads.²⁰

Building a complete intelligence picture of Iran has been impossible. It is unclear how much is unknown about Iran's nuclear programme, which makes it hard to make definitive assessments. In these circumstances, the only option left open to governments and their policy-makers is to make intuitive calculations of likelihood, based on the information available—both about the nuclear programme itself, and about the scope for gaps in the intelligence picture.

in the Islamic Republic of Iran" (8 November 2011). See also, David Albright, Andrea Stricker, and Christina Walrond, "ISIS Analysis of IAEA Iran Safeguards Report", ISIS Reports (25 May 2012), p. 3. Iran currently does not produce enough 19.75% enriched uranium at Fordow to build a bomb. However, ISIS estimates that it will be able to do so by either end of 2012 or February 2013. David Albright and Christina Walrond, "Iranian Production of 19.75 Percent Enriched Uranium: Beyond Its Realistic Needs", ISIS Report (15 June 2012), p. 7-8.

²⁰ For more information on Iran's missile programme, see "Iran's Ballistic Missile Capabilities: A net assessment", IISS Strategic Dossier, (May 2010).

The intelligence

Acquiring the kind of intelligence that can provide real insight into the intentions of states with the nuclear fuel cycle is not within the mandate or the capabilities of international organisations such as the IAEA. But individual countries can use their intelligence services to form a more accurate picture of a country's intentions.

Not all indicators are as clear-cut as the technical ones (such as imagery), particularly when assessing intentions. Often, signals are subtle. For example, the establishment of scientific and technical expertise will need to be examined over time. Similarly, stalling or deception in potential proliferators may, by definition, not be immediately obvious. Add to this the inherent secrecy surrounding a nuclear programme such as Iran's, and detecting intentions becomes all the more difficult. In order to build a stronger sense of how well informed we are able to be in the field of nuclear proliferation, it is necessary to examine what kind of results we can reasonably expect national intelligence services to achieve.

Human intelligence is essential for determining intent. It can provide insight into the thoughts and plans of policy-makers or other significant actors. Human beings, unlike machines, are able to understand the subtleties of the information they are acquiring. In Iran, US, Israeli and British intelligence each have local groups they cooperate with, including for example, the Kurds, the People's Mujahedine of Iran (MEK) and allegedly Jundallah, in order to get a better picture of the situation on the ground.²¹

But human intelligence is not a timely form of intelligence, and ensuring the reliability of information requires the creation of networks of trained agents and informants. Building a complete intelligence picture requires sources with sufficient access to the right people to generate useful information. Iran's closed society, efforts at counter-intelligence²² and confusing and constantly shifting politics makes HUMINT particularly risky and difficult. Past intelligence failures, in Iraq prior to the second Gulf war for example, have demonstrated the unreliability of judgments based mainly on HUMINT. Not only does

21 See "Comment les États-Unis espionnent l'Iran", *Le Figaro*, 5 December 2007 and Mark Perry, "False Flag", *Foreign Policy* (13 January 2012), <http://www.foreignpolicy.com/articles/2012/01/13/false_flag>.

22 In particular, the creation of Oghab-2, Iran's nuclear counter-intelligence unit in 2005, which is solely dedicated to deception and counter-intelligence in the nuclear sphere.

the analysis fall prey to human biases but the process and inevitably, the product, is often heavily politicized and influenced by those in policy-making circles.

The intelligence debacle on Iraq has deeply influenced the way they (the CIA) do their work... The agency is not just careful but also overly skittish on Iran, reluctant to be blamed for any findings that might lead the United States to bloodshed.²³

Western intelligence services also use technical methods to monitor Iranian activities. The US relies mainly on satellites, but also manned surveillance aircrafts. It has also deployed unmanned aerial vehicles, such as the RQ-170 Sentinel plane captured in Iran in December 2011.²⁴ The development of imagery, photography and satellites facilitated the determination of capabilities by enabling the observation of any point on the globe. Imagery is a timely form of intelligence; satellites and aircrafts take photos and transmit them directly to platforms where they are instantly ready for review. It is also particularly useful for detecting suspicious sites. In Iran imagery has been primarily used to monitor changes to those sites which are already of interest, including known nuclear and military facilities. Had Iran not had a declared nuclear programme, the first challenge would have been to identify the sites to observe. There is every possibility that this challenge is still current, should Iran be developing new facilities that have not yet been identified.

However, imagery still requires highly qualified interpreters to make sense of the images; an image alone will not show change in a facility. Also, analysts are needed to determine which sites are worth observing. Images are often prey to concealment and deception efforts. All a country has to do is build their facilities underground so they cannot be photographed, which is exactly what Iran did with its Fordow enrichment facility in Qom. However, even underground construction produces some observable signatures, such as piles of dirt and access roads. Knowing where to look for such signs is the key. Indicators of weaponisation intent such as emissions from facilities, extensive security fences, or the existence or absence of water and power lines to feed the process, can all be disguised as well.

Even where satellite imagery can be used to effectively monitor developments in infrastructure, using it to accurately determine intentions is more difficult. For example, in March 2012, ISIS released photographs showing suspected signs of a cleanup at a military complex close to Tehran called Parchin.²⁵ The complex is

23 James Risen, "Ghosts of Iraq Haunting C.I.A. in Tackling Iran", *The New York Times* (31 March 2012).

24 See Frank Gardner, "Why Iran's Capture of US Drone Will Shake CIA", *BBC News* (8 December 2011).

25 For more information on Parchin see Scott Peterson, "Iran's Parchin Complex: Why Are Nuclear Inspectors so Focused on It?", *The Christian Science Monitor* (20 April 2012), <<http://www.csmonitor.com/World/Middle-East/2012/0420/Iran-s-Parchin-complex-Why-are-nuclear-inspectors-so-focused-on-it>>.

allegedly the site of some high-explosive testing conducted a few years ago. If proved correct, this would point to an intention to develop nuclear weapons.²⁶ As expected, Iran has consistently denied sanitization activities and the IAEA access to the site. Without inspectors on the ground it will be impossible to verify these claims and establish Iranian intention.

It is hard to judge the success of information gathering using signals intelligence. It involves the interception and analysis of communications, radio, radar and the emissions (signals) of any electronic device.²⁷ Monitoring channels of interaction enables the analyst to get insight into the inner workings of adversary governments. Signals intelligence also allows governments to establish patterns of behavior by compiling the information gathered from the various intercepts; vital to determining a state's intentions. Monitoring of activities that could be useful to Iran's nuclear programme is also being conducted, by keeping an eye on the private sector for example. It is an objective and reliable method of intelligence, and considered hard evidence.

But as with imagery, signals intelligence can be misinterpreted or be subject to deception efforts. For example, the deliberate insincerity of a target could evade detection. It can also be easily countered. Up until 2004, the US led a fruitful campaign of "electronic eavesdropping" on Iran. It had been used to gain important information on the programme, but once it was jeopardized, US intelligence was left without access to Iranian high command.²⁸

Past intelligence failures such as in Iraq and Syria, have made the international community particularly cautious in their judgments on Iran. Iraq was a case of poor management of collection efforts; "[...] the evidence collected was scattered, ambiguous, and often misleading".²⁹ It demonstrated the difficulty of resource prioritization and sifting the real information out from the "noise". The lack of human intelligence on Iraq also led to a renewed interest and effort in cultivating human intelligence sources in Iran.

Western governments want to be in possession of reliable evidence before they take any drastic measures against Iran. They require "hard" confirmation of Iranian intentions regarding nuclear weapons. In order to come as close to this as possible, if they have not already done so, intelligence organisations should establish what

26 See IAEA Director General, "Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran" (8 November 2011), paragraphs 43- 44, and 49-50

27 Denning, Dorothy E. (1999), *Information Warfare and Security* (New York and Oxford: ACM Press), p. 164

28 In June 2004 reports emerged that Iraqi politician Ahmed Chalabi has allegedly told the Iranians that the US had cracked their communication codes. See for example, James Risen and David Johnston, "THE REACH OF WAR: THE OFFENSE; Chalabi Reportedly Told Iran That U.S. Had Code", *The New York Times* (2 June 2004)

29 Jervis, Robert (2006) 'Reports, Politics, and Intelligence Failures: The Case of Iraq', *Journal of Strategic Studies*, Vol. 29, No. 1, p. 13

a worse-case scenario—a perfectly concealed Iranian programme—would look like. This will allow them to identify the areas of Iran's program where we are most likely to be able to detect an Iranian nuclear breakout.

What do we know?

The latest IAEA board report offers a comprehensive overview of the status of the Iranian nuclear programme.³⁰ In a nutshell, Iran's programme is continuing to make progress as it overcomes the technical difficulties it faced with its first generation centrifuges and continues to increase its stockpiles of 3.5% and 19.75% enriched uranium, including at its underground facility at Fordo.

What would a breakout scenario look like? Iran has two possibilities: it can either breakout using its declared sites, namely, Natanz, or via a clandestine programme. It is unlikely that Iran would use its declared sites for breakout: "[...] it was evident to everybody, [...] that if the Iranians wanted to pursue a nuclear weapons option the use of the Natanz facility was a very unattractive approach; because the IAEA inspectors were there, it would be noticed if Iran tried to produce weapons-grade uranium at that facility, or if they expelled the IAEA inspectors, everybody would assume that they were converting the facility to produce weapons-grade uranium."³¹

A breakout using Iran's known facilities would place Tehran in a dangerous position, likely inviting military action from Israel or even the US. That makes it a much more attractive option for the leaders of the Islamic Republic to pursue a breakout through a clandestine programme, and previously undeclared facilities. The question is: would the international community be able to detect it?

What could tip intelligence agencies off that Iran was weaponising? Firstly, Iran enriching uranium to higher than the current 19.75% would be extremely worrisome. Already, Iran's stockpiles of 19.75% uranium have gone beyond what they would legitimately need for their research reactor in Tehran. Enriching beyond this has very few uses. But the Iranians are adept at providing excuses for their activities. In fact, Israeli sources claim that Iran's declaration in June stating "Preliminary steps in making an atomic

30 IAEA Director General, "Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran" (25 May 2012). See also David Albright, Andrea Stricker and Christina Walrond, "ISIS Analysis of IAEA Iran Safeguards Report", ISIS Reports (25 May 2012), <http://isis-online.org/uploads/isis-reports/documents/ISIS_Analysis_IAEA_Report_25May2012.pdf>.

31 The White House, Office of the Press Secretary, "Background Briefing by Senior Administration Officials on Iranian Nuclear Facility" (25 September 2009), <http://www.whitehouse.gov/the_press_office/Background-Briefing-By-Senior-Administration-Officials-On-Iranian-Nuclear-Facility/>.

submarine have started and we hope to see the use of [...] nuclear submarines in the navy in the future”, was Iran’s way of preparing for an upcoming statement on the need for higher enriched uranium.³² In order for Iran to enrich to weapons-grade uranium, it would have to configure its centrifuges to produce 90% enriched uranium. Such activity would be detected by the IAEA, as would any diversions of nuclear materials. The IAEA uses cameras to monitor facilities and inspectors to check seals placed on equipment. But it needs the consent of Iran to remotely monitor facilities in present-time, which limits its capability to detect some activities.

Other suspicious activities include procuring materials required for weaponisation and other underground facilities. Detecting such facilities would involve finding construction sites or tunnel entrances. Indeed, another covert facility would be difficult to rationalize, even for a country adept at doing this.

In November 2011, the IAEA outlined some of Iran’s past weaponisation activities.³³ It also stated that: “[...] Prior to the end of 2003 the above activities took place under a structured programme. There are also indications that some activities relevant to the development of a nuclear explosive device continued after 2003, and that some may still be ongoing.”³⁴

Detecting the resumption of some of these activities would constitute a telltale sign of Iranian intentions. As would the detection of explosives testing, although it is likely that Iran will conduct computerized testing first, which is even harder to detect.

By definition we don’t know what we don’t know. So determining the likelihood of detecting something that we are not sure exists, is difficult. But it is possible to estimate the likelihood that Iran is developing another clandestine programme.

Iran has had to become increasingly self-sufficient as the international community has clamped down on proliferation networks and increased their sabotage efforts. In addition, Iran is also facing increased international scrutiny and severe sanctions. But today, it is estimated that Iran still has limited resources available for an alternative programme. Is it likely that they will risk further diluting resources and increasing redundancy in order to build another alternative covert programme? This is all the more questionable since their first covert programme was discovered in 2009 when the underground enrichment plant at Fordo was revealed. Given the lack of credible information on Iran’s capabilities, intelligence organisa-

32 Nuclear submarines require fuel with uranium enriched above Iran’s current 19.75 percent. This would put Iran much closer to the HEU needed for a bomb and dramatically reduce the timeframe and difficulty of enriching uranium to 90 percent (weapons-grade).

33 See IAEA Director General, “Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran” (8 November 2011), Annex I

34 IAEA Director General, “Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran” (8 November 2011), para. 45

tions have not ruled out the possibility of covert facilities, but it would be difficult for Iran to allocate sufficient resources another hidden nuclear programme.

The issue of limited resources also comes into play when considering what Iran would need in order to have a credible nuclear deterrent. As Daryl Kimball of the Arms Control Association said, “[...] acquiring enough weapons grade fissile material for one bomb does not a nuclear arsenal make”.³⁵ Iran will not risk exposing its intentions before it has developed at least four or five nuclear weapons, giving it a minimum deterrent posture. Producing more than one nuclear weapon will increase the timeline for becoming a nuclear state. “[...] in order to be able to build and deliver a small arsenal with confidence, a state must build up its supply of fissile material, assemble and possibly test its warhead design, and conduct tests involving its delivery system and the warhead design. At various stages along this path, a state runs a high risk that one of more of these activities are detected.”³⁶

The increased risk of detection is what the Iranians will want to avoid. The country is most vulnerable to signaling its activities when it is crossing from a threshold state to a nuclear-weapon state. Exposure will inevitably lead to international condemnation, isolation and likely military action, especially from Israel. Indeed, although there has been confusion about what the “red lines” are for the US and Israel, overt weaponisation will establish Iran’s intentions and make the situation untenable, sparking what will be considered by some as legitimate military action. The stage prior to being a nuclear-weapon state (weaponisation) is the best time for Israel and the US to carry out a military strike on Iran’s programme with hope of inflicting enough damage that the outcome will at least be postponed. In other words, weaponisation is the stage where Iran is at the greatest risk of being discovered and being punished for its activities; the most dangerous phase. This means that it is in Iran’s interest to keep this stage quiet, until it has a handful of weapons with usable delivery means at its disposal that it can declare.

If Iran believes that there is a significant possibility that they will be discovered, then it is likely that they will not go through with weaponisation. Indeed, Iranian leaders are committed to the survival of their regime. Iran is “unlikely to weaponise [...] if it thinks that doing so would undermine the regime’s longevity” at least until they judge that the risk can be tolerated or they are sure of the result.³⁷ This will be particularly the case if the US and its allies are able to “communicate clearly to Iran that any breakout activity will very likely be detected and most certainly be severely punished before a

35 Jasmin Ramsey, “Q&A with the ACA’s Daryl Kimball about Iran’s Nuclear Program”, *Leblog Foreign Policy* (8 February 2012), <<http://www.lobellog.com/qa-with-the-acas-daryl-kimball-about-irans-nuclear-program/>>.

36 *Ibid.*

37 James Dobbins, Alireza Nader, Dalia Dassa Kaye, Fredric Wehrey, “Coping with a Nuclearising Iran”, RAND Corporation (2011), p. 27.

weapon is achieved".³⁸ Iran would therefore need a high level of confidence in their ability to keep weaponisation under wraps for it to proceed.

In addition, it is unlikely that Iran will risk another exposure on the same scale as Qom.³⁹ The 2009 revelation about Iran's underground enrichment facility in Qom galvanized international public opinion into increasing the push for stronger sanctions. This was especially the case because the facility is too small for civilian use: "Our information is that the facility is designed to hold about 3,000 centrifuge machines. Now, that's not a large enough number to make any sense from a commercial standpoint. It cannot produce a significant quantity of low-enriched uranium. But if you want to use the facility in order to produce a small amount of weapons-grade uranium, enough for a bomb or two a year, it's the right size."⁴⁰

It is therefore likely that Iran will continue to conduct its activities as legitimately as possible; by slowly going through the steps which would bring it to threshold status openly and justifying it as they go along. For example, the Iranians have consistently justified their 20% enrichment level by stating that it is required for the Tehran Research Reactor (TRR), which provides medical isotopes for cancer patients.⁴¹ This is part of what is commonly termed Iran's "salami tactics" method.⁴²

38 Peter Jones, "Learning to live with a nuclear Iran", *The Nonproliferation Review* (2012), Vol. 19, No 2, p. 207.

39 Author interview with an Israeli official, June 2012.

40 The White House, Office of the Press Secretary, "Background Briefing by Senior Administration Officials on Iranian Nuclear Facility" (25 September 2009), <http://www.whitehouse.gov/the_press_office/Background-Briefing-By-Senior-Administration-Officials-On-Iranian-Nuclear-Facility/>.

41 Argentinian fuel for the TRR has run out and Iran is attempting to indigenously produce its own fuel rods to replace it. For more information on this process see: Julian Borger, "Iran's First Nuclear Fuel Rod and What It Means", *The Guardian – Global Security Blog* (5 January 2012), <<http://www.guardian.co.uk/world/julian-borger-global-security-blog/2012/jan/05/iran-nuclear-fuel>>.

42 Author interview with an Israeli official, June 2012.

Conclusion

The position held by many analysts, that Iran has not made a decision to go nuclear, is often based on the false assumption that we have access to a complete intelligence picture. But, in reality, a complete picture of Iran's nuclear program and intentions is far beyond our grasp.

Western governments have made a similar assessment based on the available information. Despite the concerns expressed in IAEA reports over recent years, the typical official position remains that Iran "does not yet have a nuclear weapon and is not yet in a position to obtain a nuclear weapon without us having a pretty long lead time in which we will know that they are making that attempt".

Iran might very well want full capability at some point in the future, but at the moment they do not seem to be interested in rocking the boat by building an actual weapon. This hypothesis is given more solid form when we consider, as mentioned above, that the lack of any sense of urgency in the timeframe of the programme, the configuration of Iran's current nuclear facilities, the kinds of intelligence (as far as various governments represent it to us) we are getting, and our confidence of detecting any breakout effort, point to Iran not having begun the weaponisation of its nuclear program.

Given that assessment, it seems likely that the government in Tehran is working to build its capacity, and solidify its status, as a threshold state. That would allow the regime to minimize its breakout timeline, and so its window of greatest political and military vulnerability. Presumably this strategy is based on the assumption that Iran would have a lead-time of any adverse strategic shift in the region at least as long as its projected nuclear-breakout timeline—thereby providing it with a nuclear deterrent should it decide in the future that it is prepared to shoulder the risks of nuclear weapons in return for the rewards.

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