Operation Cactus
India's First Rapid Reaction Strategic Mission in the Neighbourhood

Gulbin Sultana*

Operation Cactus was one of the most important strategic airlifts by the Indian Air Force (IAF) in the neighbourhood, which was accomplished despite several issues and challenges. Various lessons were learnt from the experience of Operation Cactus. Some of the issues and challenges were subsequently addressed to improve the capability of India to undertake a joint strategic mission within a short period. However, with India's ever-increasing strategic interests and sphere of influence, the IAF needs to further bolster its strategic airlift capability.

Keywords: *Operation Cactus, Maldives, Indian Military, Indian Air Force, Strategic Airlift*

One of the most important operations and the first rapid reaction strategic mission conducted by the Indian Air Force (IAF) in the neighbourhood was Operation Cactus.[1] In this operation, launched on 3 November 1988 at the request of the Maldivian government, Indian troops rescued the then President of Maldives, Maumoon Abdul Gayoom, and averted a coup d'état attempt by a rebel force. People and Government of the Maldives till date are grateful to India for launching Operation Cactus and restoring the government. The quick and decisive success of the

* Dr Gulbin Sultana is an Associate Fellow at the Manohar Parrikar Institute for Defence Studies and Analyses (MP-IDSA), New Delhi.

ISSN 0976-1004 (print); 2583-7567 (online)

operation not only strengthened India–Maldives relations but also brought international accolades to India.

The main contributing factors behind the success of this operation were: the quick politico-military decision to launch the mission; and the rapidity in planning, preparing and executing the same. It needs to be noted that the request from the Maldivian government came at a time when India's decision to induct the Indian Peace Keeping Force (IPKF) and launch Operation Pawan in Sri Lanka was facing severe criticism both within and outside India. Moreover, the decision to launch Operation Cactus was taken despite the high possibility of casualties due to the challenging topography of the Maldives, of which the Indian personnel involved in the mission had limited knowledge.

This article critically analyses Operation Cactus and explores the motive behind the decision of the political leadership in India to respond positively to the Maldivian government's request for security assistance during the 1988 coup attempt. It also investigates how the Indian Armed Forces jointly executed the political decision to assist the Maldives. Though Operation Cactus was a joint operation, the role of the IAF needs special mention as it was only because of air support that the Indian troops could be airlanded in the Maldives within 16 hours of the SOS call from the Maldivian government for assistance. In addition, the article assesses the capability and readiness of the IAF at that time and examines the challenges faced in undertaking such an overseas mission. In the concluding segment, the article highlights the lessons learnt from Operation Cactus and investigates the course-corrective measures taken since then to enhance the preparedness of the forces to undertake a mission abroad on such short notice.

The Maldives: An Archipelago in the Indian Ocean

The smallest country in South Asia, the Maldives is a beautiful and strategically important archipelago in the Indian Ocean Region (IOR). Consisting of around 1,200 islands, the archipelago was a sultanate from the 12th century to the 19th century. It became a British protectorate in 1885 and gained independence from the colonial power in 1965. After independence, it continued as a sultanate for three years under Muhammad Fareed Didi, the self-proclaimed king. On 11 November 1968, through parliamentary votes, the Maldives became a republic under the presidency of Ibrahim Naseer—and has remained one since then. From 1968 to 2008, it followed a one-party rule, but the new Constitution, ratified by the *Majlis* (Maldivian Parliament)

in 2008, made provision for a presidential election under a multi-party system.

The Maldivian politics has been quite dynamic since the country became a republic due to political infighting, power struggle and authoritarian practices of the rulers. The political and economic stability of the country was a major concern during the presidency of Ibrahim Naseer from 1968 to 1978. During the presidency of Maumoon Abdul Gayoom, from 1978 to 2008, the country witnessed economic development. However, he continued to face political challenges and between 1980 and 1988, there were three unsuccessful coup attempts in the country. The first coup attempt was in 1980 and the second was in 1983. The third coup attempt that took place on 3 November 1988 was the most serious. About 80 Sri Lankan mercenaries raided the country to overthrow the Gayoom government.[2] They fired a rocket and breached the wall of the National Security Service (NSS) Headquarters (HQ), stormed the presidential palace and tried to seize control of Malé. The mercenaries also attempted to disrupt the communication system and water supply. They went on rampage, looting shops and hurting and killing innocent people on the street.

The NSS tried its best to deter the mercenaries, but had certain limitations. The main focus of the NSS, at that time, was on policing, fire service and internal security. Maritime and external security had not been a major concern for the Maldives till then. Hence, the NSS had limited capability to deal with a seaborne external attack. Realising this, the Maldives sent an SOS message on 3 November to several countries, including the United States (US), India, Pakistan, Sri Lanka, Malaysia and Singapore. The US forces in Diego Garcia were in a much better position to reach Hulhule within a short period of time to launch a mission against the rebels, but it declined to do so perhaps anticipating low probability of success of a military mission. Sri Lanka, the Maldives closest neighbour, also kept a team of Special Task Force commandos on standby, but did not launch the mission. Both the US and Sri Lanka looked towards India to assume the leadership role in this regard. The Indian political leadership, despite anticipating several challenges, decided to respond positively to the SOS call for help from the Maldives.

India's Interests in the Maldives

India has been maintaining friendly relations with the Maldives since its independence; in fact, India was one of the first countries to recognise the Maldives as an independent, sovereign nation. The geostrategic location of

the Maldives makes it strategically important for India: it is just 70 nautical miles away from India's Minicoy Island and 300 nautical miles away from India's west coast. This island nation is also situated at the hub of commercial sea lanes running through the Indian Ocean. Diego Garcia, where America has its military base, is 694 nautical miles from the Maldives. Other maritime powers and navies interested in the Indian Ocean also consider the Maldives as strategically important. For example, after the British withdrew from Gan Island, a World War II vintage staging post, the erstwhile Union of Soviet Socialist Republics (USSR) showed interest in having facilities on the island.[3] The Maldives, however, refused to hand over Gan Island to any foreign power citing its adherence to non-aligned foreign policy and the support for the Indian Ocean peace zone in the 1970s. This Maldivian commitment to keeping the IOR free from power rivalry and militarisation was acknowledged by India.[4]

Unlike many other countries in the region, the Maldives did not doubt India's intention following the nuclear test in 1974. During Indian Prime Minister (PM) Indira Gandhi's visit to the Maldives in January 1975, the PM of the Republic of Maldives expressed his appreciation and full understanding of India's nuclear policy and the conviction that the benefits of this technology could contribute significantly to the economic development of the countries in the region.[5] Indira Gandhi, in turn, expressed her gratitude to the Maldives for showing its understanding of India's stated policy that the country needed to strengthen itself not to make its power felt but to look after its own needs, maintain peace and help the neighbouring countries and other friendly countries.[6] This mutual understanding brought the two countries closer, with the Maldives emerging as the friendliest and closest neighbour of India. Analysing India–Maldives relations during that time, P. Sahadevan argued that the relationship between the two countries was guided by the 'principle of beneficial bilateralism, a mutual appreciation of concerns and interests, as well as equal respect and sympathy for each other's sensitivities'.[7]

Thus, on 3 November 1988, when the Maldivian government asked for assistance, India felt that it was its duty to respond positively to the request of its closest friend in the region. The then PM Rajiv Gandhi, explaining the reason for India's assistance to the Maldives in the Parliament, said:

> Maldives is a peaceful country, with no Armed Forces except a small force to maintain law and order. President Gayoom is the democratically elected and popular President of this friendly neighbour of ours. He was re-elected for a third term in office as recently as 23 September 1988, securing over

> 95 per cent of the votes polled. Maldives is also one of our closest and friendliest neighbours. It appealed to us in desperation in its grave hour of need. After carefully considering this appeal, we felt that we must respond positively and go to the aid of a friendly neighbour facing a threat to its sovereignty and its democratic order.[8]

Rajiv Gandhi further stated:

> Our response to developments in the Maldives is a clear manifestation of our commitment to the promotion of peace and stability in our region. It is in keeping with our belief that countries in the region can resolve their problems in a spirit of friendship and cooperation, free of outside influences.[9]

During the Cold War period, particularly in the 1970s, India staunchly believed that if smaller countries in the South Asian region required help, they should ask for it from India, instead of approaching extra-regional powers,[10] as the country had both the capability and willingness to assist its neighbours. Considering itself as a security provider in the South Asian region, India extended immediate support whenever neighbouring countries were in need and requested for help. For instance, India's assistance to Sri Lanka during the Janatha Vimukthi Peramuna (JVP) insurrection in 1971 and the armed ethnic conflict in 1987. Hence, it was quite natural for India to respond positively to the SOS call of its friendliest neighbour during its hour of need in 1988.

As mentioned earlier, the Maldives sought assistance at a time when the IPKF was present in Sri Lanka, which was seen by many as military intervention to further India's strategic interests. In that context, not responding positively to the Maldivian government's request for help would have put a question mark on India's genuine intention as a security provider in the region. Moreover, the IPKF was not doing very well in Sri Lanka and it had failed to achieve some of its objectives. Indian political leadership perhaps found it worth the risk to reiterate the point that India had both the capability and willingness to provide security in the region.

Operation Cactus

Operation Cactus was a joint mission by the country's armed forces, that is, the Indian Army, the IAF and the Indian Navy. India sent the 50th (I) PARA Brigade, commanded by Brigadier Farukh Bulsara, to the Maldives, which

rescued President Maumoon Abdul Gayoom and restored peace in Malé by averting the coup attempt. The first wave of Indian troops comprised of a parachute regiment (6 PARA), commanded by Colonel (Col.) Subhash Joshi, and the 17th Parachute Field Regiment, which were airlanded by two IL-76 aircraft at Hulhule Airport at around 10 p.m. on 3 November 1988.

The immediate task for 6 PARA was to take control of the airfield and the Air Traffic Control (ATC) tower and hand over the security of the Hulhule Island to 3 PARA. The 6 PARA then proceeded to Malé and rescued President Gayoom by 2.15 a.m. on 4 November. The power supply and water supply team of 411 PARA took over the charge to protect the installation. A surgical team of 27 medics provided assistance to the injured at the civil hospital at Malé and took charge of the hospital in the absence of the superintendent of the hospital. A detachment of 60 PARA Field Ambulance functioned at the civil hospital until normalcy was restored. After completing the mission, the troops—barring about 500 paratroopers (3 and 7 PARA) who stayed back in the Maldives for 10 days at the request of the Maldivian president to help restore normalcy—came back to India. The Indian troops made house-to-house searches along with the NSS and captured about 30 mercenaries with large quantities of arms and explosives. The explosives were diffused by members of 411 PARA. During their stay, the Indian troops did joint training with the NSS.

As the Indian troops reached Malé, some of the rebels decided to escape. About 60 fled on a merchant ship, *MV Progress Light*, with seven hostages, including the then Minister of Transport of Maldives, Ahmed Mujuthaba, and his wife. Here, the Indian Navy played an important role in chasing the ship, apprehending the mercenaries at sea and rescuing the hostages.[11] The Indian Navy launched its IL-38 maritime reconnaissance aircraft and helicopter for air patrols to locate the hostage ship. Three ships, *INS Betwa*, *INS Godavari* and *INS Tir*, were involved in the mission. An American warship assisted the Indian Navy by providing information on *MV Progress Light*. A team of Maldivian negotiators was on board *INS Godavari*, and both *INS Betwa* and *INS Godavari* were tasked to intercept the rogue ship. *INS Tir*, on the other hand, entered Malé and its crew patrolled the islands by boats to apprehend the mercenaries who were still there on the island. Later on, *INS Deepak* was also sent with 25 personnel of the Indian Marine Commando Force on board. The captain of *INS Godavari* was the officer in tactical command. The Indian Navy and the Maldivian negotiators tried hard to make the rebels surrender, but after negotiations failed and one hostage was killed, *INS Godavari* and *INS Betwa* resorted to firing. In the

end, the rebels surrendered. Accomplishing the mission, *INS Betwa* and *INS Tir* left Malé within a week. *INS Godavari*, however, patrolled the islands and provided security cover to the archipelago for a month.

The IAF played the crucial role of bringing the armed forces personnel to Malé within a short period to complete the mission, as well as bringing the injured Maldivians to India for treatment.

Operation Cactus was successful due to the combination of following factors:

1. *Speed in mounting the operation*: The ability of the Indian political leadership to take a quick decision to launch Operation Cactus and the ability of the Indian military to mount the operation within a short period of time were the crucial factors behind the success of the mission. All the companies involved in the mission were ready between two-and-half to three hours, which is much faster than the normal time given to them.[12] Indeed, the whole brigade was mobilised within 12 hours.
2. *Initiatives and actions taken at all levels without waiting for orders*: After receiving the SOS message from the Maldives, the concerned authorities immediately informed the military units to get prepared for a possible mission. Even though a formal order was not issued, all the units started preparing immediately upon receiving the information. This helped the task force to take off within a short period of time. As usual, officers and junior commissioned officers were leading from the front.
3. *Willpower and determination*: The willpower and determination of the armed forces to execute the mission, despite the risks associated with it, was a crucial factor. The acumen used by the Indian Armed Forces officials responsible for implementing the policy decision made it possible. Despite the challenges and uncertainties about safe landing at night without lights on the runway, the captain of the lead aircraft, Group Captain (Gp Capt) Bewoor, was determined and succeeded in landing in the first attempt without any casualties. A continuous effort was made on board the lead aircraft to boost the morale of the troops. A rehearsal of assaulting an ATC building was carried out in Agra to enhance the confidence of the fighting units.
4. *Excellent coordination between the army and the air force*: There was excellent coordination between the army and the air force right from the beginning of preparing the aircraft to airlanding at the Hulhule International Airport. Tremendous flexibility was shown by the air force to immediately resolve hiccups between the forces and also, the IAF was extremely flexible to the requirements of the Indian Army. It is

interesting to note that once the paratroopers landed at Hulhule from the lead aircraft, there was no one left to offload the ammunition. The crew members of the first IL-76 did the offloading.

5. *Role of the NSS*: The ability of the NSS to deter the mercenaries from entering and occupying the NSS HQ until the Indian forces reached Malé prevented the rebels from overthrowing the regime.
6. *Mistakes committed by the mercenaries*: Mistakes on the part of inexperienced mercenaries indirectly helped to make the operation successful. Even though the mercenaries tried, they failed to completely disrupt the communication system.[13] As a result, necessary communications between India and the Maldivian government could be established. The mercenaries had enough time to capture the airfield and create difficulties for external assistance to reach the island. However, they completely ignored this aspect, which facilitated a smooth landing for the Indian troops and helped complete the mission.

While all these are crucial factors, the role of the IAF requires special mention as without the air support, it would not have been possible for the Indian Army brigade to reach Malé in time and accomplish the mission. When the SOS call came from the Maldivian government for assistance in early hours of 3 November 1988, the mercenaries were already present in Malé. Given the small area of Malé and the capability of the NSS, the Maldivian government was in a vulnerable position. There was concern that a delay in the Indian troops' presence in the Maldives would increase the chances of mercenaries taking over power from the Gayoom administration. Had the Indian forces reached Malé after the mercenaries took over power, it would have been difficult to rescue President Gayoom, and the country would also have faced international criticism for committing an 'act of aggression' for militarily intervening in the archipelago.[14] Therefore, the success of the Indian mission depended on how quickly the Indian forces could reach Malé. The only option was to airlift the Indian task force, along with the equipment and ammunition. The Indian Navy estimated 36 hours to reach Malé, while the IAF airlanded the troops in Hulhule International Airport within four hours from Agra, covering around 2,600 kilometres (kms).

Role of the IAF in Operation Cactus

The main role of the IAF was to airlift the troops. In all, 31 aircraft were used to airlift 1,650 troops and 16 vehicles, including three jeeps, one jeep-cum-

RCL, 2 tonne ammunition, one trailer, six guns, one motorcycle, bridging equipment, rations and two water trailers.[15] Six IL-76, 15 AN-32, one AN-12 and four Mirages were used for the mission. The IL-76 was the most suitable for the mission as it could go from Agra to Hulhule in four hours without the need to refuel enroute.

On 3 November, at 6 p.m., the first two IL-76 aircraft, called 'Friendly Formation', took off from Agra. Gp Capt A.G. Bewoor was the captain of the lead aircraft and Wing Commander A.S. Gill was the captain of the second IL-76. The two aircraft airlanded 316 troops, along with two jeeps and essential equipment. Initially, there was a plan that a Mirage would escort the two IL-76s but later, the plan was dropped. However, four Mirages were used for power projection to undermine the mercenaries confidence. The Mirages flew 500 feet above sea level over the islands on 4 November 1988 to serve this purpose. An ATC officer was also taken along.

In addition, the IAF helped de-induct 1,567 troops from 5 November to 13 November. Apart from this, the IAF airlifted injured Maldivians to Trivandrum for medical assistance. An air bridge was built between Trivandrum and Malé with AN-12 and AN-32s.

Airlifting such a large task force within a short period was not an easy task. It is well known that decision-making and preparing aircraft suitable for the mission takes time. It was even more challenging for the IAF during Operation Cactus as they had to also prepare the aircraft to cater to the contingency plan prepared in Delhi. In the process, the IAF had to face several challenges while undertaking the mission, leading to a four hour delay in the take-off of the aircraft from the schedule originally planned during the meeting between the political and military leaders.

Contingency Plan

Even though India was in constant touch with the Maldivian government through non-stop telephone connection, there was no clarity about the strength and capability of the mercenaries and the ground situation. The initial information available to Indian officials was that there were 500 mercenaries and they were well-equipped. Further, there was fear that the Hulhule airfield might be captured by the mercenaries by the time Indian troops reached the Maldives. The possibility of an attack on Indian troops was anticipated.

Therefore, a contingency plan was prepared. It was decided that the 44 Squadron would try to airland the troops at Hulhule. In case the runway was

found (occupied by the rebel forces) unsafe for landing the aircraft, the plan was to paradrop some troops. If that was not possible due to any reason, then the aircraft would return to Trivandrum. A paradrop using AN-32 aircraft would be attempted on 4 November 1988. It was also decided that if the first IL-76 failed to land, the senior-most army officer in the second flight would take charge as the task force commander.

To cater to the contingency plan, 65 parachutes were carried on board. The initial requirement was of 1,000 parachutes. However, only 400 parachutes were in a packed state. Since adequate numbers of automatic activation devices (AADs) were not available, all 400 packed parachutes could not be used. Only 65 AADs were available,[16] hence only 65 parachutes were carried. Besides, there was fear of disruption of the power supply by the mercenaries. Four airfield safety operators carried 100 'Goose necks' filled with kerosene to light the runway in case of a power failure.[17]

The contingency plan of paradropping troops had a lot of serious issues. The decision was taken by the political and military leadership, in the army operations room (Ops Room), without consulting the fighting unit and without having any information about the dropping zone (DZ) and the coordinates. In addition, several important factors were not taken into consideration while taking the decision. For instance, the IL-76 could carry D-5 parachutes, which did not have a quick-release mechanism to release the parachute. The IL-76 also required a DZ which was 1.5–2 km long and at least 1 km wide. It was, therefore, challenging to paradrop in the narrow area of the DZ which was surrounded by sea. Also, the runway in Hulhule was 6,000 feet long. Further, since the IL-76 and D-5 parachutes had been acquired in 1984, not many people were trained to jump from the aircraft using the Russian D-5 parachutes when Operation Cactus was launched. At that time, night combat free fall had not been tried and practised. Around 60–70 per cent of the paratroopers would have drowned in the sea, which made this an extremely risky proposition.

India had also lost several troops in Jaffna just a year back in 1987. Losing more lives on a mission in a foreign country would have had serious repercussions. In a recent interview, Gp Capt Bewoor, criticising Delhi's decision to paradrop without taking all these serious issues into account, stated: 'even though there was a contingency plan of paradropping (as decided in Delhi), I would have never opted for paradropping'.[18] The Indian forces, however, did not have to resort to the option of paradropping as the runway was not captured by the rebels. Troops were airlanded safely and without any casualties, despite there being challenges and issues at different levels.

Overcoming the Challenges

This section deals with the challenges faced in mounting the operation by the air force and how these were tackled.

Lack of Communication between the Staff and Fighting Units

There was no clear communication or order from the Air HQ or Command HQ to the 44 Squadron. Information was flowing on a need-to-know basis. The commanding officer of 44 Squadron received orders through the Ops Room to place three IL-76 aircraft on three hours standby at around 7.30 a.m. on 3 November without any further essential details of the airlift. The crew members tried to find information on their own and based on the news on *Doordarshan*, they presumed that they might have to go the Malé. Accordingly, the engineering team too began preparing the aircraft. Using Jeppesen charts, the navigators entered nine waypoints in the aircraft. Around 11 a.m., the alerts were upgraded to a one hour standby status. Yet, there was no communication and/or firm orders about the cargo, destination and purpose. The crew members got to know about their cargo only when a sea of maroon berets (PARA brigade) started filling the squadron tarmac. Since no orders were issued formally until 4 p.m., interaction at the working level was minimal between the squadron and the paratroopers. This led to the lead aircraft carrying unnecessary and avoidable paraphernalia. Captain of the lead aircraft, Gp Capt Bewoor, and the Brigade Command Col Joshi, did not get a chance to make any plans about landing at Malé before taking off. They did the same at the height of 25,000 km on board the IL-76. Accordingly, briefing of the troops was done in the aircraft.

Arranging Adequate Fuel

The final operational plan made in Delhi Ops Room was shared with the task force only when the team from Delhi reached Agra at 3.15 p.m. on 3 November. This plan required the immediate arrangement of additional 66 tonnes of aviation turbine fuel for the three IL-76s. The IL-76 had a capacity of 82 tonnes of fuel and the general norm was to load the aircraft with 40 tonnes of fuel as that much was adequate to fly from Agra to any part within India. For Operation Cactus, the decision was taken to attempt a direct landing at Hulhule and come back to Trivandrum without refuelling. As a result, the fuel requirement per aircraft increased to 62 tonnes. In other words, for three aircraft, total additional requirement of fuel was 66 tonnes (70,000 litres).

Arranging the required fuel within a short period of time was a challenge. Each bowser could store only 9,000 litres. Since the bulk petroleum installations were outside the air force station (about 4 kms away), getting the required 70,000 litres of fuel through the bowsers would generally have taken four hours. However, the then Chief Engineering Officer, Gp Capt G. Gururani, managed to refuel the three aircraft with 62 tonnes of fuel within 1 hour and 10 minutes. According to Gp Capt Bewoor, 'it was an absolute masterpiece of engineering administration that Gururani did because of which at 5.45 pm the three aircraft were ready with 62 tons of fuel'.[19]

Getting Ready in the Shortest Possible Time

As mentioned earlier, mounting the operation in the shortest possible time was key to the success of the operation. However, preparing the aircraft within a short period of time was a challenge due to several factors. As per the usual SOPs followed to mobilise troops and prepare an aircraft for a mission, it was not possible to launch a mission within 12 hours. Thus, some of the SOPs and general practices were bypassed to launch the mission in the shortest possible time. Written orders were not issued (they were issued later) due to paucity of time, thereby creating ambiguity, but it helped to save time by avoiding unnecessary delays.[20] Further, due to time constraints, arms and ammunition were not distributed before the take-off. The paratroopers were issued hand grenades at 30,000 feet inside the aircraft, which was not only a violation of safety regulations but also extremely dangerous.

Lack of Information

The lack of information about the island, the runway and the exact ground situation was a major challenge while preparing to mount the operation. The information about the island and runway was provided to the task force from a tourist book on the Maldives which had photos of the island of Male and the runway at Hulhule. These were provided to the task force when the team from Delhi reached Agra around 3.30 p.m. All this material was, however, not adequate for the air force to learn about the airfield. Also, the pilot of the lead aircraft was not given any detailed information about the DZ or the coordinates while the order for paradropping, if required, was issued. Moreover, it was realised only with the intervention of the high commissioner, who was present during the briefing at Agra, that the aircrew was referring to a map of Gan Island instead of Hulhule.

Maintaining Secrecy

The Indian Air Power (IAP) 2000–22 doctrine states:

> speed, reach, and elevation endows aerospace power with a high degree of inherent surprise, which plays a key role in the war, and has an exponential effect on the morale of the forces. Deception can be combined with initiative and innovation to increase the element of surprise. Air landed operations at Hulhule airfield during Operation Cactus highlighted all these elements.[21]

Maintaining secrecy and planning and executing a deception plan were important aspects of Operation Cactus. It was, however, a challenge for the air force to enter the Maldives and land by using stealth tactics as the aircraft were too huge and noisy.

From the beginning, an attempt was made to keep the operation a secret to ensure an element of surprise. Except for the ATC at Agra, the information everyone had was that only one IL-76 was airborne and it was going to Trivandrum; and no one had any information about the second IL-76. The second IL-76, which was 1 km behind the first aircraft, turned off all its navigation lights before taking off.

The IL-76 has a weather radar in the nose, which picks up thunderstorms as a bleep, and a tail gun radar which can see any target behind the aircraft. The first IL-76 had the tail radar on and could see the second IL-76 as a bleep, thus keeping track of the distance. The second IL-76, on the other hand, kept the weather radar on and picked up the first aircraft and followed it. That is how the 'Friendly Formation' proceeded towards Malé, maintaining complete secrecy. Meanwhile, Trivandrum ATC did not have the information that the aircraft was going to the Maldives. An IAF officer was deployed in the ATC who gave the go-ahead to the Friendly Formation.

A checkpoint, NOKID, is located between Trivandrum and Malé through which all air traffic between Southeast Asia and the Middle East transits. On 3 November 1988, the two IL-76 did not report their position at NOKID. It was only just before landing that the first radiotelephony (RT) contact with Hulhule ATC was made to get confirmation that the runway was safe for landing.[22]

At Hulhule Airport, runway lights were kept switched off to avoid the attention of the rebels. When the first IL-76 was about to land, the runway lights were switched on for 10 seconds to give the crew a reference for alignment. The lights were switched on again when the aircraft was about

200 metre above the sea and switched off immediately after the aircraft touched the ground.

Despite all efforts to keep the operation secret, the whole world came to know, through *BBC*, within half-an-hour of the 'Friendly Formation' getting airborne that Indian troops were on their way to the Maldives.

Difficulty in Landing at Night

Due to the time taken to mobilise the forces and prepare the aircraft, the first two IL-76s could only take-off from Agra by evening and reached the Maldives at night. Landing at night time was a major challenge as runway lights were kept off deliberately to prevent the rebels on Malé from getting a hint of developments on Hulhule Island. The lights were switched on momentarily on request. Airlanding at night was even more challenging as the runway was narrow and surrounded by the ocean. The aircraft came to a halt at the end of the runway with three concrete slabs to spare. Overshooting the runway would have taken the aircraft into the ocean. It was years of training that helped the pilot to land with such precision.

The Vanguard Flew without Any Protection

It was anticipated that the rebels might capture the runway. Therefore, through the hotline between India and the Maldives, the Maldivian authority was instructed to remove all boats from Malé and bring them to Hulhule to deter the rebels from proceeding towards Hulhule to capture the airfield. However, the vanguard was not allowed to carry tail guns, even though the squadron requested it.[23] The initial plan was that the 'Friendly Formation' would be escorted by a Mirage, but the idea was dropped. So, the two lead aircraft proceeded to Malé without any protection.

Lessons Learnt

The success of Operation Cactus brings out several points to be noted for similar kind of operations in the future. Both the political and military leadership should be sure about the objectives and aims of the mission. Once the political approval is given and political goals clearly stated, full backing should be given to the military. In other words, there should be no interference by the political and bureaucratic leadership in the operational aspects. Making strategic decisions should be the responsibility of the staff and the field operator should not be burdened with such responsibility.

The principles of centralised control and decentralised execution should be applied.[24] Even though this principle was followed during Operation Cactus, decentralised execution at the planning level would have facilitated the launch of the operation during the daytime instead of night. The unfeasible paradropping decision was also taken without consulting the fighting unit. The lesson learnt was that unless the units are consulted, the plans are likely to be unrealistic.

Further, the operation brought out that when a mission is launched, the fighting unit must be equipped with adequate ammunition, protection and intelligence. It was sheer luck that the rebel forces did not attack the first IL-76 on 3 November. The ammunition captured later from the rebel forces, by the Indian troops, indicated that the mercenaries could have launched an attack on the aircraft. In that case, it would have been a disaster as the IL-76 did not have any protection.

One of the main issues while planning Operation Cactus was the lack of knowledge of the country. Fortunately, on that day, the Indian High Commissioner to the Maldives was coincidentally present in Delhi and could provide vital information about the country and the airfield. There were, however, several other options available in the country to get adequate information about the runway and the DZ in Malé. For instance, India had MiG-25, the super spy aircraft, and a squadron of Canberras whose job was to do photo recce. Though the Canberra squadron was sent to Malé for photo recce, the decision, unfortunately, was taken so late that it could not provide information to the pilot of the lead IL-76 on time.[25]

When the decision to launch the operation was taken, the main focus was to activate the paratroopers and the aircraft for paradropping or landing. No attention was given to intelligence gathering, even though adequate sources were available within the country. A *Doordarshan* film on Malé city and the Hulhule International Airport was also available in the archives, but no efforts were made to access that information. Information about the runway at Hulhule Airport could also have been gathered easily from the pilot of the civilian aircraft that plied to the Maldives every week. Hence, an important lesson learnt from Operation Cactus was that all sources available need to be tapped.

It is well known that a realistic threat and risk assessment is important. According to Gp Capt Bewoor, the contingency plan of paradropping the troops was a poor decision as it would have resulted in massive loss of lives. Earlier, on 11 October 1987, an audacious heliborne operation with 10 PARA Commando (now Special Forces) and 13 Sikh Light Infantry (LI) had

been launched to attack Jaffna University, which turned out to be disastrous with the loss of 30 Sikh LI troops and six paratroopers. It seemed that even after the Jaffna fiasco, India had not learnt much. Despite anticipating a high risk of casualties and possible attack from the mercenaries, the decision of paradropping troops on 3 November at the Maldives, if required, was taken.

According to Arun Kumar Banerjee, the then Indian High Commissioner to the Maldives, the services were pretty gung-ho about getting involved in the mission and were eagerly waiting for the political signal. In his words, 'the army seemed to relish this opportunity to settle scores with the Sri Lankan Tamils at whose hands it had received a severe mauling in the IPKF operations then underway in Sri Lanka.'[26] Civilian authorities, on the other hand, were concerned about the possible strategic fallouts in the crisis committee meeting chaired by PM Gandhi in South Block on 3 November to decide on the Maldives' request for help. While there is nothing wrong about strategic outreach, serious deliberation is needed on the question whether risking the precious lives of the armed forces is justifiable in the name of strategic outreach.

Operation Cactus was carried out without informing the ATCs within India. It was sheer luck that on 3 November, the airspace was free. Today, airspace is crowded and therefore, it will be unsafe to conduct a secret operation without informing the ATCs. Hence, there should be a regular practice of deploying IAF controllers at the civil ATCs along with civilian controllers being privy to special exercises that IAF may conduct.

Another aspect highlighted by the 1988 operation was that preparedness is key to quickly launching an operation. Since there was no provision for a quick reaction force at the time of Operation Cactus, mobilising a task force and preparing the aircraft suitable for the mission was time consuming, and this caused delays in the launch of the mission. The squadron was ready by 10 a.m., but the brigade could not get ready before 3 p.m. Therefore, there is a need for a tri-service rapid reaction force (RRF).[27] In the RRF, the air element and the ground element must be able to get ready within a very short period from each other.

Lack of intelligence was another major issue in the Maldives operation with neither the squadron nor the brigade being provided any intelligence. All the information was based on speculation. It was the duty of the Defence HQ to provide authentic information, followed by continuous follow-up by the staff with the fighting unit. It was pointed out by the Gp Capt Bewoor that there was a lack of support for the fighting unit from the staff. Even after

successfully airlanding the troops at Hulhule, Bewoor was in touch with 44 Squadron through a relay aircraft to update the progress on ground.

Operation Cactus exhibited effective jointness of the armed forces. However, no joint directive with an overall force commander (OFC) was issued before the operation.[28] As a result, there were coordination issues at the planning level. Special attention should be given to this specific issue of coordination while conducting a joint operation. With the integrated defence system in place, improved coordination is expected.

One significant lesson of Operation Cactus, which is often overlooked, is the aspect of 'perception of asymmetry'. The rebels numbered 80 and the Indian troops numbered 316 in the first wave. A handful of armed men on the runway could have prevented the (safe) landing of Indian troops. In this case, the asymmetry was marginal but the perceived asymmetry was incidental and phenomenal. In future, deliberate effort should be devoted to creating a perception of asymmetry as it has the potential to break the will of the enemy without fighting.

If the IAF has learnt lessons, so have the rebels. In a future operation of this nature, the runway might not be available (occupied or blocked). Under those circumstances, landing an aircraft on the runway will not be possible. Even paratroopers or combat free fallers might not be able to land on the islands. The use of seaplanes can enable water landing anywhere around the islands. The same seaplanes can also enable better accessibility and security of India's island territories, namely, the Andamans and the Lakshadweep. The IAF could, therefore, invest in this capability.

Indeed, the lessons learnt from Operation Cactus over 35 years back have been valuable to build India's present capability with technologically advanced platforms and well-trained flight crew and personnel. Some of the challenges faced during Operation Cactus have also been addressed over a period of time. According to Ashok K. Chordia, significant improvement has been made in the domain of paradropping. Now, parachutes are kept ready for a battalion group paradrop and paradropping exercises are conducted regularly. Chordia argues that the preparation time to mobilise forces has also been refined for greater efficiency after Operation Cactus.[29] Apart from this, effective and secure voice communication and information gathering through the use of advanced technology have improved significantly compared to 1988.

The issues related to landing at night, as was faced during Operation Cactus, have been resolved by making use of night vision devices. The IAF has been using night vision goggles in helicopters since 2002 for operational

flying, such as special heliborne operations, troop deployment, search, rescue and communication.[30] The acquisition of the C-130J Super Hercules in 2011 has further addressed the concerns of landing at night as it has an all-weather capability and excellent navigation and night vision devices that render it capable of precision air drops on unmarked DZs or airlanding troops in complete darkness without runway lights.[31] Such missions and drops are routinely undertaken by the IAF towards joint training and during exercises. Pulling out the Indian diaspora from Sudan was also an example of covert operations.

Robust strategic airlift capabilities are vital to ensure the deployment of forces and equipment rapidly to wherever they are needed. Operation Cactus showed that transport aircraft, in particular for heavy lift and strategic airlift, must have the range and ability to land on a short airstrip or have the capability to land without radio navigation at night as well as without ground support to turn the aircraft around and depart.

Airlifting Capability of the IAF Today and the Challenges Ahead

Airlifts consist of two distinct types: strategic and tactical. Typically, strategic airlifting involves moving materials, weapons and personnel over long distances, whereas a tactical airlift focuses on deploying resources and material to a specific location with high precision. Strategic airlifters are generally larger and can fly longer distances than tactical ones.[32]

India demonstrated its strategic airlift capability during Operation Cactus. The country had acquired strategic airlift capability by purchasing IL-76 in the mid-1980s. The aircraft played a significant role during Operation Cactus, but had limitations with regard to landing and paradropping in difficult and short runways at night. The acquisition of Boeing C-17 Globemaster III transport jets (2013 onwards) from the US addressed some of the issues and challenges faced during Operation Cactus.[33]

The gigantic four-engine C-17 aircraft can lift a payload of 80 tonnes, or two T-90 tanks or 134 fully equipped combat troops. Despite its enormous size and weight, the aircraft can operate from runways as short as 3,500 feet.[34] The IL-76 can be operated at its maximum potential in the strategic neighbourhood and not beyond, whereas C-17 can fly directly to the African heartland, Australia and the United Kingdom (UK) without refuelling. Further, the C-17 can operate in all weathers at short notice. This has been displayed during international humanitarian and disaster relief (HADR)

missions as well as the rescue of the Indian diaspora from across the world in the last few years.

The IL-76 purchased in the 1980s is now aging. A 2017 Comptroller and Auditor General (CAG) audit brought out the poor serviceability rates of the IL-76:

> Serviceability of the IL fleet of the IAF was low because of delays in servicing and repair. This was in turn largely attributable to poor availability of spares and delay by IAF in signing maintenance support contracts with Original Equipment Manufacturers (OEM). The avionics of the IL fleet have not been upgraded, as a result, they continued to fly with 1985 vintage avionics. There was a delay in carrying out the first and second overhaul of IL-76 aircraft which meant that aircraft were flown without overhaul, well past the due date for overhaul.[35]

Due to poor serviceability, an average of 41 per cent of IL-76 aircraft remain grounded.[36] As a result, Boeing C-17 is providing maximum service. However, Boeing has stopped manufacturing the C-17 and hence, further acquisition of the same is not possible.

India's tactical airlifters include the Hindustan Aeronautics Limited (HAL)-built HS-748M Avro turboprops, AN-32 and Lockheed Martin C-130J Super Hercules. The fleet serviceability of HS-748 is very low. The AN-32 aircraft were acquired during 1984–96 and have a limited range. From 2011 onwards, some of the existing AN-32s have undergone total technical life extension (TTLE), overhaul and re-equipment in Ukraine and have been inducted into the IAF with a new nomenclature, AN-32RE.[37] The AN-32RE aircraft will fulfil the tactical transport requirements of the IAF up to 2025.

The C-130J has improved the tactical capability of the IAF. It is a four-engine turboprop tactical transport aircraft with an operational range of over 5,000 km. With a maximum payload capacity of approximately 19 tonnes or 92 fully equipped troops, it has remarkable short-field performance and can operate from semi-prepared surfaces.[38]

To replace the HS-748, India has decided to acquire 56 C-295 aircraft. One C-295 has already been received by the IAF on 13 September 2023. The C-295 is a versatile transport aircraft of 5–10 tonnes capacity with contemporary technology. The aircraft, with a flight endurance of up to 11 hours, can carry out multi-role operations under all weather conditions. It can routinely operate day as well as night combat missions from desert to maritime environments. It has a rear ramp door for quick reaction and

paradropping of troops and cargo. Short take-off from and landing on semi-prepared surfaces is another of its features.[39]

Compared to the late 1980s and the 1990s, India has expanded its sphere of influence. Now, the country is also focusing on Indian Ocean island states beyond its immediate neighbourhood. One of the national military objectives and the objective of the IAF is to assist in contingencies at home and abroad to render HADR, aid to civil authority, international peacekeeping and any other emergent situation when called upon to do so.[40] Therefore, the acquisition, maintenance and upgradation of the strategic airlifters is very important. The serviceability of the airlifter also needs to be at a higher level.

The transport fleet (both strategic and tactical) acquired in the 1980s, that is, AN-32 and IL-76 aircraft, definitely requires upgradation or replacement.[41] However, the upgradation of the Ukrainian and Russian ageing aircraft is facing severe challenges.[42] The serviceability of these aircraft is a major issue due to the lack of spares. After the disintegration of the erstwhile USSR and the closing of the Ilyushin (IL) manufacturing facility of the original OEM, M/s Tashkent Aircraft Production Corporation (at Tashkent), the spares were obtained directly from various vendors of Russian and Ukrainian origin. The signing of contracts with these vendors and the materialisation of supplies took a long time causing a delay in servicing and repairing the grounded aircraft.[43]

Another reason for the poor availability of spares and maintenance support is the failure to conclude the Long-Term Maintenance Agreement (LTMA) with the OEM. The IAF proposed an LTMA in April 2011 with M/s Ilyushin Aviation Complex (IAC), Russia, to sustain 70 per cent serviceability of the fleet at any given time. The Ministry of Defence reviewed the proposal and directed the Air HQ to put up a fresh proposal to be processed by the ministry for approval in January 2014.[44] In 2018, the air force proposed a Rs 4,000 crore deal for comprehensive upgradation of 17 IL-76 and seven IL-78 aerial refuellers.[45] The proposal was cleared by the Defence Acquisition Council.

Later, India and Russia reportedly held talks on the upgrade of IL-76[46] and agreed to take forward ongoing engagements to encourage joint manufacturing in India of spare parts, components, aggregates and other products for the maintenance of Russian-origin arms and defence equipment under the 'Make in India' programme. This was to be achieved through transfer of technology and setting up of joint ventures for meeting the needs of the Indian Armed Forces, as well as subsequent export to mutually friendly third countries.[47] Meanwhile, the Ministry of Defence of India invited an

Expression of Interest (EoI) for major overhaul (MOH) and TTLE of Russian-origin IL-76MD aircraft of IAF from reputed Indian firms based in India having the technical and financial capability, infrastructure and experience to execute the project. It was stated that the project will involve the development of facilities, certification of airworthiness and delivery within strict timelines.[48]

In 2009, a $400 million contract was signed with Ukraine's Ukrspetsexport Corporation to upgrade 105 AN-32s to AN-32RE standard. The upgrade included advanced avionics, cockpit modification, reduction in noise and vibration level and payload capacity enhancement from 6.7 tonnes to 7.5 tonnes. The first 40 aircraft were to be upgraded in Ukraine and the project began smoothly. However, the upgrade of the remaining 65 aircraft that was to be undertaken by the IAF in Kanpur with Ukrainian assistance got stuck due to the Russia–Ukraine conflict in 2014. Reportedly, Russia halted supplies of upgraded avionics and other spares to Ukraine.[49] With the ongoing war between the two countries, it is unlikely that the issue is going to be resolved anytime soon.

Experts believe that the recently acquired C-295s have the potential to eventually replace AN-32 aircraft.[50] India has decided to acquire 56 C-295. The first 16 C-295s aircraft on order will be assembled at the San Pablo Sur site in Seville, Spain, with the second aircraft due to be delivered in May 2024 and the next 14 rolled out at a rate of one per month until August 2025.[51] The remaining 40 C-295s of the IAF order will be manufactured and assembled in partnership with Tata Advanced Systems Limited at a final assembly line (FAL) in Vadodara. The production of components of these aircraft has already started in the main constituent assembly facility in Hyderabad. These parts will be shipped to the Vadodara FAL, which is expected to be operational by November 2024. The first 'Make in India' C-295 is expected to roll out of the Vadodara FAL in September 2026. The final aircraft is expected to be delivered to the IAF by August 2031.[52]

Conclusion

Operation Cactus was one of the most important strategic airlift operations by the IAF as it airlifted a large number of cargo and personnel over a long distance to achieve a strategic goal. The main objective of the mission, to rescue President Gayoom and restore normalcy in the island, was achieved. The Indian forces accomplished the mission despite several issues and challenges. Various lessons were learnt from the experience of Operation

Cactus. Some of the issues and challenges were subsequently addressed to improve India's capacity to undertake joint strategic missions within a short period of time.

The experience of Operation Cactus showed that while significant contributions from all actors are crucial in a joint operation, it is air power that enables the other forces to undertake sustained operations beyond India's shores. In other words, air power is the 'lynchpin of joint operations' in out-of-country scenarios.[53]

Augmenting the airlifting, particularly strategic, capacity will enhance the ability of the air force to secure and safeguard India's growing influence and strategic interest in the region. The need for upgradation and replacement of ageing airlifters has been well acknowledged. However, due to geopolitical and geostrategic issues and bureaucratic delays, the process of upgrading the Russian and Ukrainian aircraft has been very slow. India is now looking towards other options as well, such as acquiring aircraft from different countries and having manufacturing and assembling facilities within India.

Operation Cactus, however, shows that the availability of airlifting capability alone is not enough. Propper planning, joint directive with an OFC, centralised control and decentralised execution, non-interference of civilian administration in the execution of military operations and intelligence gathering by tapping all sources and resources available are the key requirements for a strategic mission. It is also important to appropriately assess the national interests and priorities. In the name of strategic outreach, one should not fall into the trap of strategic overreach and unnecessarily waste scarce and precious resources.

Notes

1. V.P. Malik, *India's Military Conflicts and Diplomacy: An Inside View of Decision Making*, HarperCollins, Noida, 2013, p. 78.
2. H. Haajaraage Abdulla Luthfee led the coup d'état attempt with assistance from armed mercenaries of a Tamil secessionist organisation from Sri Lanka, the People's Liberation Organisation of Tamil Eelam (PLOTE). Luthfee and another Maldivian joined the armed PLOTE contingent on the night of 29 October 1988 on the Mollikulam beach and left the north-western shores of Sri Lanka in two 40 feet-long fishing trawlers. The trawlers reached Malé at 4:30 a.m. on 3 November 1988 and having secured the beach without a fight, the group divided into over half a dozen smaller groups that moved to specific targets, including the army barracks, the president's house and the deputy defence minister's residence.

3. The Soviets offered the Maldivian government 1 million dollars annually for repair and recreation facilities for their Indian Ocean fishing fleet.
4. See the text of the speech by 'Prime Minister, Shri Rajiv Gandhi at the State Banquet in Male on 7 February 1986', *Foreign Affairs Record*, Vol. XXXII, No. 1, 1986, available at https://mealib.nic.in/?pdf2574?000, accessed on 15 May 2023.
5. 'Indo-Maldives Joint Communique Released during PM Indira Gandhi's Visit to the Maldives in January 1975', *Foreign Affairs Record*, Vol. XXI, No. 1, January 1975.
6. 'Banquet Lecture Delivered by Indira Gandhi during Her Visit to the Maldives in 1975', *Foreign Affairs Record*, Vol. XXI, No. 1, January 1975.
7. P. Sahadevan, 'India–Maldives Relations', *Dialogue*, Vol. 5, No. 3, January–March 2004, pp. 99–100. This relationship, however, significantly declined during 2013–18.
8. 'Prime Minister's Statement on the Developments in the Maldives', *Foreign Affairs Record*, Vol. XXXIV, No. 1, 1988, available at https://mealib.nic.in/?pdf2576?000, accessed on 15 May 2023.
9. Ibid.
10. Bhabani Sen Gupta, 'Regional Security: India Doctrine', *India Today*, 31 August 1983.
11. G.H. Hiranandani, *Transition to Eminence: The Indian Navy 1976–1990,* Lancer, New Delhi, 2005, pp. 199–200.
12. As per the then standard operating procedures (SOPs), 50 (I) PARA Brigade could be activated within a three-day notice. After activation, they could standby on a two hour notice. The time taken by air force to take-off also depended on several factors.
13. The mercenaries entered the telephone exchange and interrupted the main power supply by smashing some of the equipment. However, the exchange was functional on standby power supply. Thus, the SOS messages could be sent.
14. Ashok K. Chordia, *Operation Cactus: Anatomy of One of India's Most Daring Military Operations*, KW Publishers Pvt. Ltd, New Delhi, 2018, p. xx.
15. Ibid., pp. 235–36.
16. Ibid., pp. 38–39.
17. Ibid.
18. Views shared by Gp Capt Bewoor in a personal interview with the author on 30 October 2023 through Zoom meeting.
19. Ibid.
20. Ashok K. Chordia, *Operation Cactus*, n. 14.
21. IAF, *Doctrine of the Indian Air Force, IAP 2000–22*, Directorate of Operations (IEW), New Delhi, 2022, available at https://indianairforce.nic.in/wp-content/uploads/2023/01/2MB.pdf, accessed on 15 May 2023.
22. The code word 'HUDIA' was transmitted by Hulhule ATC to confirm that the runway was safe to land.
23. Views shared by Gp Capt Bewoor in a personal interview with the author on 30 October 2023 through Zoom meeting.

24. Suggested by Gp Capt Bewoor; Ibid.
25. Ibid.
26. Arun Kumar Banerjee, 'Maldives Revisited', IDSA Occasional Paper No. 39, 2015, available at https://www.idsa.in/occasionalpapers/OP_MaldivesRevisited_ArunKumarBenerjee_060515, accessed on 27 November 2023.
27. The need for an RRF was underlined by former Defence Minister George Fernandes at the combined conference of Indian Military Commanders on 26 October 1999. He said the Indian Armed Forces should set up an RRF that would be 'able to reach any corner if a threat arises'. He added that such a force would have to be a 'tri-service one'. See Vijay Sakhuja, 'Maritime Rapid Reaction Force', *Indian Defence Review*, 26 August 2011, available at http://www.indiandefencereview.com/spotlights/maritime-rapid-reaction-force/, accessed on 15 May 2023.
28. P.A. Purohit, 'Post-Independence India: Evolution of Jointmanship in the Military and Lessons Learnt', *Journal of the United Service Institution of India*, Vol. CLI, No. 623, January–March 2021, available at https://www.usiofindia.org/publication-journal/post-independence-india-evolution-of-jointmanship-in-the-military-and-lessons-learnt.html, accessed on 15 October 2023.
29. Views shared by Gp Capt Ashok K. Chordia (Retd) during a personal interview with the author on 16 October 2023.
30. Vijay Mohan, 'IAF Seeks 200 Advanced Night Vision Goggles for Dhruv and Mi-17 Helicopters', *The Tribune India*, 26 October 2022, available at https://www.tribuneindia.com/news/nation/iaf-seeks-200-advanced-night-vision-goggles-for-dhruv-and-mi-17-helicopters-444607, accessed on 15 May 2023.
31. B.K. Pandey, 'Indian Air Force Airlift Capability', *Indian Defence Review*, Vol. 26, No. 3, July–September 2011, available at http://www.indiandefencereview.com/interviews/indian-air-force-airlift-capability/3/, accessed on 15 May 2023.
32. Cezar Vasilescu, 'Strategic Airlift Capability: From Theory to Practice', October 2011, available at https://www.researchgate.net/publication/256228999_STRATEGIC_AIRLIFT_CAPABILITY_FROM_THEORY_TO_PRACTICE/link/02e7e522080b4f39ba000000/download, accessed on 15 May 2023.
33. An agreement for the purchase of 10 Boeing C-17, worth $4.1 billion, was signed with the US government in 2011. These 74.8 tonne payload capacity jets are based at Hindon and are operated by 81 Squadron Skylords. The IAF wanted to buy another six C-17, but due to government inaction, the process could not be initiated. Later, it could not be acquired as C-17 production ceased in November 2015. Currently, there are 11 C-17s in India. See B.K. Pandey, 'Indian Air Force Airlift Capability', n. 31.
34. Ibid.
35. 'CAG Report on Union Government, Defence Services (Air Force) Laid in Parliament', Press Release, Office of CAG of India, 28 July 2017, available at https://cag.gov.in/uploads/PressRelease/PR-Press-Release-Report-No-24-of-2017-05f604fb3728016-47137987.pdf, accessed on 15 May 2023.

36. 'Audit Findings of the CAG Report on Union Government, Defence Services (Air Force) Laid in Parliament', Office of CAG of India, 28 July 2017, available at https://cag.gov.in/uploads/download_audit_report/2017/Chapter_2_-_Audit_Findings_of_Report_No.24_of_2017_-_Compliance_audit_Union_Government_Air_Force_Reports_of_Defence_Services.pdf, accessed on 15 May 2023.
37. 'Upgraded AN-32 RE Aircraft Inducted into IAF', *Indian Defence Review*, 9 June 2011, available at http://www.indiandefencereview.com/news/upgraded-an-32-re-aircaft-inducted-into-iaf/, accessed on 27 November 2023.
38. B. K. Pandey, 'Indian Air Force Airlift Capability', n. 31.
39. 'Prime Minister Lays Foundation Stone of C-295 Transport Aircraft Manufacturing Facility—Country's First in Private Sector in Vadodara, Gujarat', Press Information Bureau (Defence Wing), Government of India, 30 October 2022, available at https://www.mod.gov.in/sites/default/files/C-295-transport-aircraft-manufacturing.pdf, accessed on 15 May 2023.
40. IAF, *Doctrine of the Indian Air Force, IAP 2000–22*, n. 21.
41. 'CAG Report on Union Government, Defence Services (Air Force) Laid in Parliament', n. 35.
42. Pradeep R. Sagar, 'How the Russia–Ukraine War will Affect India's Defence Supplies', *The Week,* 13 March 2022, available at https://www.theweek.in/theweek/cover/2022/03/06/how-the-russia-ukraine-war-will-affect-india-s-defence-supplies.html, accessed on 15 May 2023.
43. 'Audit Findings of the CAG Report on Union Government, Defence Services (Air Force) laid in Parliament', n. 36.
44. Ibid.
45. 'IAF Moves Rs 4,000-Crore Proposal to Upgrade IL76/78 Transport Fleet', *The Economic Times*, 14 July 2018, available at https://economictimes.indiatimes.com/news/defence/iaf-moves-rs-4000-crore-proposal-to-upgrade-il76/78-transport-fleet/articleshow/48676134.cms, accessed on 27 November 2023.
46. 'Russia, India Discussing Il-76 Airplanes Upgrade', *TASS*, 3 February 2021, available at https://tass.com/defense/1252265, accessed on 27 November 2023.
47. 'India–Russia Joint Statement Following the Visit of the President of the Russian Federation', Ministry of External Affairs, Government of India, 6 December 2021, available at https://www.mea.gov.in/bilateral-documents.htm?dtl/34606/India_Russia_Joint_Statement_following_the_visit_of_the_President_of_the_Russian_Federation, accessed on 27 November 2023.
48. Full Text of the EoI is available at https://indianairforce.nic.in/wp-content/uploads/2023/02/4-EOI-for-MOH-TTLE-of-IL76-from-Indian-Industry-01-Feb-23.pdf, accessed on 27 November 2023.
49. Joseph Noronha, 'Revitalising the Transport Fleet', *SP's Aviation*, available at https://www.sps-aviation.com/story/?id=2057, accessed on 15 May 2023.
50. Amit Cowshish, 'Will Deal to Manufacture C-295 Aircraft Prove Pivotal for India's Defence Production?', *The Wire*, 4 November 2022, available at https://

thewire.in/government/airbus-tata-c-295-transport-aircraft-pivotal-defence-production, accessed on 15 May 2023.

51. 'Airbus Delivers First C295 to India', Airbus, 13 September 2023, available at https://www.airbus.com/en/newsroom/press-releases/2023-09-airbus-delivers-first-c295-to-india, accessed on 25 November 2023.
52. Ibid.
53. Amit Cowshish, 'Will Deal to Manufacture C-295 Aircraft Prove Pivotal for India's Defence Production?', n. 50.