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**Economy and Politics**

## **MiG-23s become the new lab rats for aeronautics students**

**Two remote engineering colleges in Tamil Nadu have already acquired the ground attack fighters, dismantled and stripped of critical equipment such as radars, arms and engines**

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Bangalore: Russian-made MiG-23 fighter jets, phased out in March by the Indian Air Force (IAF) after nearly 30 years in service, haven't entirely outlived their utility. The aircraft are being converted into laboratories and workshops for aeronautics students.

Two remote engineering colleges in Tamil Nadu have already acquired the ground attack fighters, dismantled and stripped of critical equipment such as radars, arms and engines. While the students can't get these planes to take off again—Indian defence law prevents non-military entities from flying such planes—they can learn from dismantling and reassembling the fighters using spare parts made locally.

**“Displaying the jet in the lab excites (students) than showing (it) on a computer,” says J. Chandrasekhar, chairman, department of aerospace engineering at Amrita School of Engineering near Coimbatore.**



“Let us face it, aviation is a glamorous subject. It is easy to make students interested in (the subject by) displaying something spectacular than showing them drawings,” says retired air marshal B.K. Pandey, a former head of IAF training command

in Bangalore .

Other uses: A file photo of a MiG-23 at the air force base in Jamnagar, Gujarat. The average lifespan of such a fighter jet is three decades. UNIBangalore.

Teaching of aerospace or aeronautical engineering has advanced from textbook drawings and dummy models to three-dimensional computer graphics, but the course has for long been restricted mainly to the Indian Institute of Science in Bangalore and some Indian Institutes of Technology.

Over the past few years, though, increased demand for aeronautics engineers has encouraged several colleges to add the subject. In just the past three years, at least 20 colleges in Tamil Nadu have begun offering aerospace and aeronautics courses, says A.K. Natesan, chairman of Excel Engineering College in Tamil Nadu's Namakkal district.

Excel, which acquired a retired MiG-23 jet in February, sent some of its staff to the Halwara airbase in Punjab—the base for the MiG-23 squadron called the “Valiants”—to study how the plane was being dismantled. Once the jet was brought to the college, the staff helped students put the fighter back together.

At Amrita, too, engineers are reassembling the plane, making spares such as hydraulics locally; later, the students will learn the working of the jet. Both Amrita and Excel didn't want to state on record how much they paid the air force for the jets but said the fee was nominal.

Excel's Natesan said the college's aeronautical engineering department, which takes in 60 students a year, needs more such planes. “We need more and are getting a (civil) aeroplane from the US,” he said.

IAF is eager to extend support to the colleges. It has handed over a MiG-23 to the Aligarh Muslim University in Uttar Pradesh as well, news agency ANI reported recently. “Cultivating aviation mindedness is a priority,” says wing commander T.K. Singha, a spokesman for IAF.

IAF typically extends the life of its jets by replacing the parts with new spares, powerful engines and avionics, but has to compulsorily retire the planes once they are deemed unfit for use in the services. Some of the decommissioned jets are then positioned as decoys on airfields across India, some are used as Gate Guardians—old military planes that are donated to IAF squadrons, flying clubs or municipal bodies for display. Other decommissioned jets are sold as scrap to metal traders traces of their origin are destroyed. According to Warbirdsofindia, or Warbirds.in, a website that tracks the status of Indian military planes, some 325 planes are preserved across the country in museums, air force stations and schools.

The average lifespan of a fighter jet such as MiG-23 is three decades. Singha could not specify how many planes the air force retires annually.

Though the need for civilian and military aircraft is growing in India, the country's aerospace industry is still nascent. India is expected to spend \$100 billion (Rs4.84 trillion) in the aerospace and defence industry by 2022, according to consultants **Frost and Sullivan**, but the bulk of this will be in imports. The latest defence procurement policy mandates foreign plane makers to source at least 30% of the equipment in any defence contract exceeding Rs300 crore from Indian defence agencies, to boost the local aerospace industry.

IAF, too, has recently joined hands with technical universities to award engineering degrees to technical professionals and pilots who have worked on its fighters, helicopters and transport planes.

The Defence Research and Development Organisation's chief controller, research and development, Prahlada, who goes by one name, said India needs at least one qualified engineer and five technicians for every Rs5 crore spent on defence and aerospace.