In 2005, Karnataka became the first Indian state to impart education in schools and colleges through Edusat, the country's first educational satellite.

After receiving accolades through its 11-year existence, the programme's health is now considered "a matter of concern" by experts, who recommend its revamp.

The experts, in a report titled Educational Technologies and Satellite Education for Higher Education in Karnataka, also recommend that the Karnataka government seek Indian Space Research Organisation's intervention to revamp the setup.

The report was commissioned by the Karnataka Knowledge Commission and prepared by a panel headed by BN Suresh, former director at Isro's Vikram Sarabhai Space Centre.

"One of the concerns with the pedagogical model of satellite-based education, as currently implemented via Edusat, is that there is very little opportunity for students to interact with instructors. Most institutions have Receive-Only Terminals (ROTs) that do not allow students to ask or answer questions," the report notes.

Irregular power supply, difficulty in fitting the lectures into timetables and lack of content storage are other problems plaguing Edusat, it adds.

The Edusat programme reaches thousands of students in 375 undergraduate colleges, 193 engineering colleges and hundreds of government schools through a central hub located in Hosakerehalli in South Bengaluru.

"Karnataka must move away from one-way satellite education to dedicated two-way interactivity, which is crucial for effective education and training," the report says.
Technologies are now available to upgrade ROTs using an add-on system providing a limited amount of two-way interactivity using 2G connectivity. "This would cost anywhere between Rs 15,000 to Rs 20,000 per unit," the report says.

Gopal Naik, chairperson of economics and social sciences area at IIMB, believes that the report needs serious consideration. "IIMB’s experiment in tele-education in 1,000 schools in backward areas of Karnataka finds that a combination of ROT and broadband connection can be cost-effective and allows quality interaction," he said.

The government, on its part, sees merit in the report. "It is an implementable report. Action is being taken towards it," Additional Chief Secretary (Higher Education) Bharat Lal Meena said.

The report wants the government to convert every classroom in every higher education institution to a smart classroom within three years. This entails each classroom having 750 watt UPS, digital projectors, laptops, audio systems and 100 mbps internet connectivity.

Every institution should have a media server to make available e-content for students, get teachers to create digital teaching content and institute a 'Technology in Education' fellowship for best teachers.