



Executive Summary

Why did we decide to examine this issue?

National Remote Sensing Centre (NRSC) is one of the units of Department of Space (DOS). NRSC is the nodal agency for operational remote sensing activities and the sole authority to acquire, process and disseminate the remotely sensed satellite data products within India. NRSC mainly acquires remote sensing data from six operational Indian Remote Sensing (IRS) satellites and a few other foreign satellites.

We selected NRSC for a Performance Audit as remote sensing formed an important part of nation's space programme which was helping in the efficient management of nation's resources in the fields of agriculture, water resources, urban development, disaster management, etc. Besides, there was substantial investment of ₹ 2206 crore towards cost of seven satellites and other related programmes.

What did our performance audit reveal?

During the course of the performance audit, we examined the effectiveness in the utilisation of remote sensing satellites in operation, its data acquisition, processing of data and maximisation of revenue through sale of data products. The primary objective of our performance audit was to examine whether satellite and airborne remote sensing was effectively conducted and projects undertaken were fruitful. We also examined that whether adequate training was imparted to ensure effective usage of data products and an efficient financial management system was in place to aid NRSC in carrying out its mandated activities. Our audit examination highlighted the following critical issues:

Utilisation of remote sensing satellites, data acquisition and processing

Performance Audit on the activities of NRSC revealed that performance of three out of the seven remote sensing satellites was below their maximum capacity in terms of the number of remote sensing satellite data captured by them. The revenue realised from seven satellites in operation was not up to the desired level. The satellites were planned without adequate thematic data need assessment. Idling of acquired IRS data was high due to non-adopting of appropriate marketing strategy. While there was a need to review and augment data acquisition capacity of NRSC after conducting a realistic data need assessment, there were also delays in data processing impacting the delivery of available data products.

Sale of data products

The efforts of NRSC were not adequate in customising the data according to the needs of private users and also in exploring the possibility of widening the customer base. The sale of data products to private users did not improve as recommended by Standing Committee of Parliament of DOS. Further, there was scope for enhancing the rates of IRS data products in line with international rates.

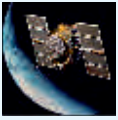


Aerial Remote Sensing	<p><i>NRSC was the sole civilian provider of aerial remote sensing services in the country. It had two beach aircrafts in operation to attend to various aerial projects. These aerial projects were meant for remote sensing in specific areas at required times, which was not possible from the remote sensing satellites. We observed that aircrafts performing the task of aerial remote sensing could not be put to use to their maximum capacity mainly due to non-availability of pilots and technical snags in the aircrafts. As a result, one third of aerial projects test checked were found to have been delayed.</i></p>
Remote Sensing Application Projects	<p><i>NRSC was responsible for providing services to Government users by undertaking remote sensing application projects aimed at achieving vital social objectives like food security, conversion of wastelands into usable land, water security through drinking water missions, environment security through disaster management support programmes, etc. NRSC also undertook operational projects directly from various users for delivering processed remote sensing data and maps.</i></p> <p><i>Performance Audit of these projects revealed that NRSC did not adequately coordinate with various agencies for effective implementation of these projects. Further, there were instances of deficiencies in planning and implementation, non/partial achievement of the objectives, delays in completion of projects etc., which adversely impacted on the success of these projects.</i></p>
Training in remote sensing	<p><i>Indian Institute of Remote Sensing (IIRS), Dehradun, a unit of NRSC conducted customised professional courses towards capacity building in the application of remote sensing and geo informatics for natural resource management. We observed that there was an overall increase in the number of students trained by the IIRS. However, there was shortfall in the enrolment in long term courses. Further, the number of private persons trained for promoting the sale of data products was lower than participants from the Government sector. As a result, the objective of promoting the sale of data products to more and more private entrepreneurs was not fully met.</i></p>
Financial management	<p><i>There were substantial amount of unutilised balances available with NRSC under Government projects, despite which it continued to receive advances for special projects from DOS and from other government users. Budgeting of NRSC was not realistic indicating lack of control on income and expenditure and poor monitoring of projects. There was reduction of revenue/loss of interest due to irregular fixation/ delayed fixation of agency commission payable to Antrix Corporation Limited (ACL) in the sale of satellite data. Internal control and internal audit were not commensurate with the requirement of NRSC and there was a need to strengthen the same.</i></p>



What did we recommend?

<p>Utilisation of remote sensing satellites, data acquisition and processing</p>	<p>1. NRSC/DOS may assess the need requirement of data in various thematic areas before planning and launching satellites and initiate action to maximise utilisation of remote sensing satellites already launched.</p> <p>2. NRSC/DOS may consider formulating a marketing policy and adhere to it to enhance revenue to cover at least operational cost.</p> <p>3. NRSC/DOS may also consider revising its archival policy to enhance utilisation of archived data.</p> <p>4. NRSC/DOS may prescribe ideal turn-around time for different categories of data.</p>
<p>Sale of data products</p>	<p>5. With a view to maximising revenue, NRSC/DOS needs to take proactive steps to enhance usage of data products by private enterprisers in India.</p> <p>6. NRSC may streamline pricing of IRS data products, especially pricing of products sold internationally, by considering the pricing of similar products in international markets.</p>
<p>Aerial remote sensing</p>	<p>7. NRSC, being the sole civilian provider of aerial surveys, may strengthen its efforts in improving operational efficiency of aircrafts by suitably addressing the causes of delays.</p>
<p>Remote sensing application projects</p>	<p>8. NRSC/DOS, as an exclusive agency to provide remote sensing services, may associate themselves more closely with the planning and implementation of projects of national importance and of National Natural Resources Management System where remote sensing techniques are used to ensure realisation of expected benefits on time.</p> <p>9. NRSC/DOS may enter into appropriate MoU with ACL and collect all receivables from them. It should also enforce conditions of MoU with other government and private users to avoid overdues, undercosting etc.</p>
<p>Training in remote sensing</p>	<p>10. NRSC may ensure planned level of enrolment in customised courses to fully utilise its training facilities. It should also encourage more private participants in its short-term courses, which would also encourage sale of its data products to them.</p>
<p>Financial management</p>	<p>11. The efficiency of financial management processes should be improved to achieve more realistic budgeting and control so as to avoid locking up public funds.</p> <p>12. NRSC may streamline commission payable to ACL, avoid credit sales and streamline system for collection of receivables.</p> <p>13. Proactive action may be taken by NRSC to adjust outstanding advances paid to its work centres.</p>



What was the response of National Remote Sensing Centre to our recommendations?

National Remote Sensing Centre accepted most of the recommendations made by us. Recognising the criticality of the issues reported in the performance audit, National Remote Sensing Centre has submitted details of action already taken and action proposed to be taken on our recommendations. We appreciate the concern shown in recognising and promptly addressing the significant issues highlighted in the report. We hope that National Remote Sensing Centre would take appropriate actions to address these significant deficiencies.

