



Zooming in on the potential of India's geospatial sector

Last year in Feb new guidelines took effect to completely de-regulate the geospatial sector for Indians.

FACTS - GEOSPATIAL MARKET

India



12 - 15%
growth at a
cumulative annual rate



\$4 bn
market



\$3 bn
The annual budget of
government agencies for
GIS services is estimated
to be



\$20 bn
Market - expected to be
by 2025

Not much of a percolation

1. India has a robust ecosystem in geospatial, with the Survey of India (SoI), the Indian Space Research Organisation (ISRO), remote sensing application centres (RSAC)s, and the National Informatics Centre (NIC) in particular, and all ministries and departments, in general, using geospatial technology.
2. However, the full benefits have yet to percolate to the public; neither is there much contribution to the nation's GDP.
3. It is certain that the new guidelines have played a role. Today, there is a positive mood in the private industry, which is no more apprehensive and conservative than it was in previous years. However, there are lingering hurdles in exploiting the full potential of the geospatial sector.

Key issues

1. Among the most prominent hurdles is the absence of a sizeable geospatial market in India. There is no **demand for geospatial services and products**



on a scale linked to India's potential and size. This is mainly due to the lack of awareness among potential users in government and private.

2. The other hurdle has been the lack of **skilled manpower** across the entire pyramid.
3. The **unavailability of foundation data**, especially at high-resolution, is also a constraint.
4. The lack of clarity on **data sharing and collaboration** prevents co-creation and asset maximisation.
5. Lastly, barring a few cases, there are still no ready-to-use solutions especially built to solve the problems of India.

Have a protocol in place

1. It is understood that these issues cannot be resolved overnight and that the formulation of guidelines alone is not enough. The inertia and the mindset due to decades of restrictions will be difficult to shrug off.
2. First and foremost is the need to publish the entire policy document and make government and private users aware of things.
3. The data available with government departments should be unlocked, and data sharing should be encouraged and facilitated. This will only be possible through an open data sharing protocol.
4. Most important is to inculcate the culture of data sharing, collaboration and co-creation.

Foundation data across India

1. While different types of data will be produced on a project-to-project basis, there is a need to generate foundation data across India. This should include the Indian national digital elevation model (InDEM), data layers for cities, and data of natural resources.
2. Local technology and solutions should be promoted, and competition should be encouraged for quality output.
3. As the new guidelines prevent high-accuracy data being stored in overseas clouds, there is a need to develop a geospatial data cloud locally and facilitate a solution as service.

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4. For instance, the Ministry of Environment, Forest and Climate Change can host a complete suite of Geographic Information Systems (GIS) applications like working plan, wildlife corridor mapping, social forestry, etc.
5. National organisations like SoI and ISRO should be entrusted with the responsibility of regulation and the projects related to the nation's security and scientific significance.
6. These organisations should not compete with entrepreneurs for government business as the latter remains in a disadvantageous position.

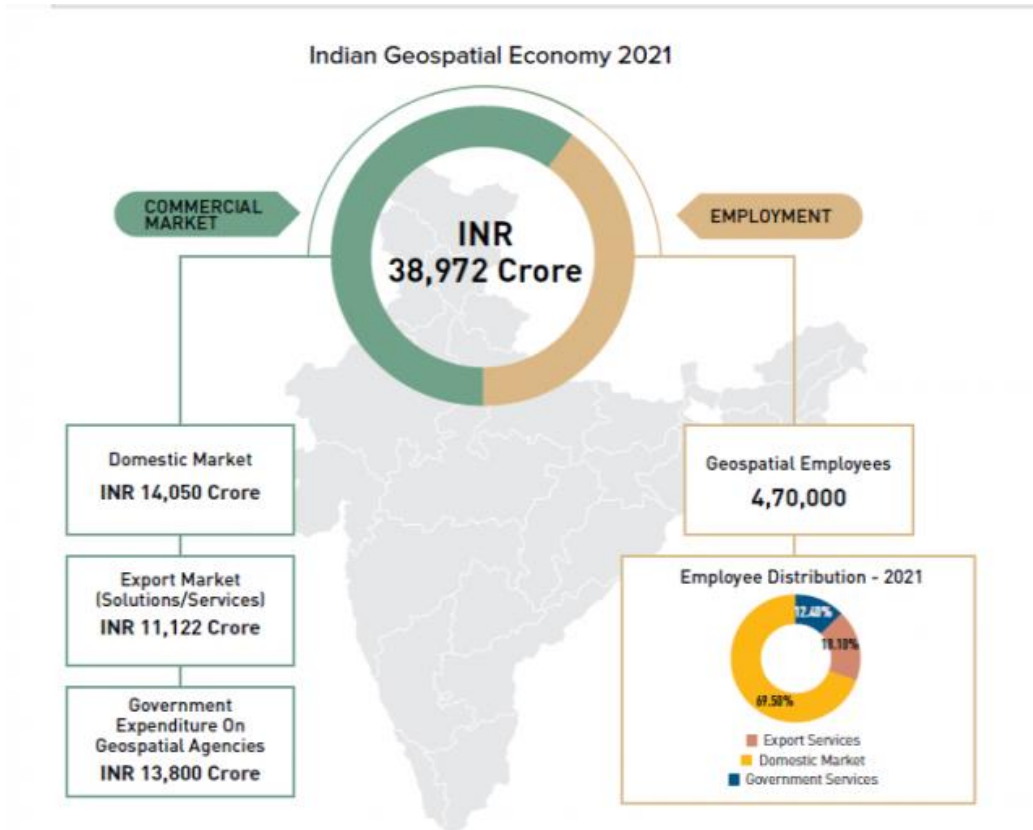
An academic programme

1. Though India has many who are trained in geospatial this is mostly either through a master's level programme or on-job training. Unlike the West, India lacks strata of core professionals who understand geospatial end-to-end.
2. India should start a bachelor's programme in geospatial also in the Indian Institutes of Technology and the National Institutes of Technology Besides these, there should be a dedicated geospatial university.
3. Such programmes will propel research and development efforts which are crucial for the development of technologies and solutions locally.

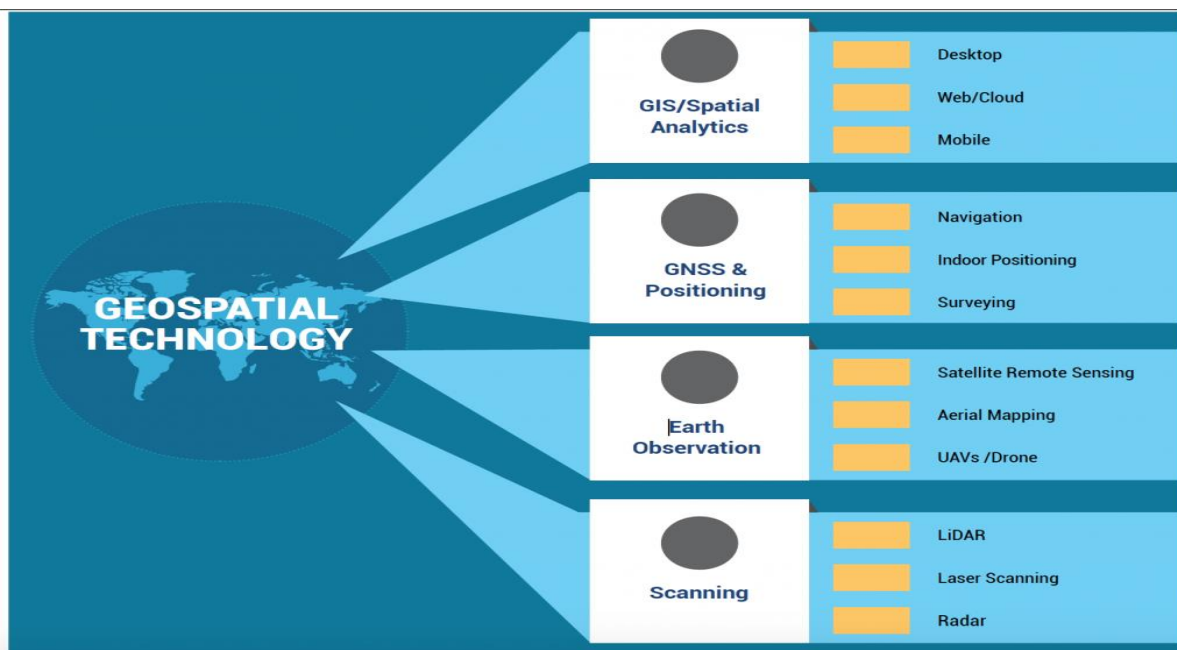
The geospatial sector in the country is rightly positioned for investment. However, clarity on the issues discussed and the creation of an enabling ecosystem are essential.

Indian Initiatives:

1. The Indian government is currently in the process of finalizing the draft National Geospatial Policy (NGP) and draft of the Indian Satellite Navigation Policy (SATNAV Policy).
2. It has already implemented Guidelines for Geospatial Data (Guidelines for acquiring and producing geospatial data and geospatial data services including maps) in 2021.



Geo-spatial sector applications:





Spillover effects of Geo-spatial sector:

CONSUMER BENEFITS	BUSINESS BENEFITS	SOCIETAL BENEFITS
<ul style="list-style-type: none"> • Commuting efficiency: beating congestion • Fuel efficiency: saving money at the pump • Personal safety: safer routes and driving • Purchasing efficiency: faster shopping 	<ul style="list-style-type: none"> • New products and services • Productivity benefits for other sectors • Sales growth (particularly for small businesses) • Tourism spend 	<ul style="list-style-type: none"> • Job creation • Traffic congestion • Urban planning • Civic engagement • Public Health • Safety & emergency response • Disaster preparation and responsiveness • Environment and wildlife preservation • Knowledge creation and human capital development

Incorrect diagnosis, wrong remedy

There are simpler solutions to the shortage of IAS officers at the Centre than the proposed amendments.

Proposed amendments:

1. The amendments proposed to Rule 6(1) of the Indian Administrative Service (IAS) (Cadre) Rules of 1954, which seek to empower the Central government to unilaterally order the Central deputation of IAS officers without the consent



of the State governments or the officers concerned, have provoked controversy.

2. The Centre has justified them on the ground that the States are not meeting their Central Deputation Reserve (CDR) obligations because of which the Centre is suffering from an acute shortage of mid-level IAS officers, especially Deputy Secretaries and Directors.



Real Issues:

1. It is true that some states like Tamil Nadu and West Bengal were recalcitrant and would not forward the names of even willing IAS officers for Central deputation.
2. But the fact that all the States, including the BJP-ruled ones, are not meeting CDR obligations indicates that their reluctance to forward names to the Centre is not the real problem.
3. We believe that there are simpler, more effective and less contentious solutions to the shortage than the proposed amendments. In fact, once the root causes of the shortage are identified, the solutions suggest themselves.

Causes of shortage: Drastic reduction in the annual recruitment

1. The first cause of the shortage was the drastic reduction in the annual recruitment of IAS officers after 1991 (from 140-160 to just 50-80) under the misguided notion that the government will have a reduced role due to economic liberalisation. That didn't happen.
2. As of January 1, 2021, the shortage of IAS officers at the all-India level was 23%. The number of IAS officers recruited annually should be increased to around 200 for a few years as a short-term measure.



Cadre review free IAS from non-strategic posts:

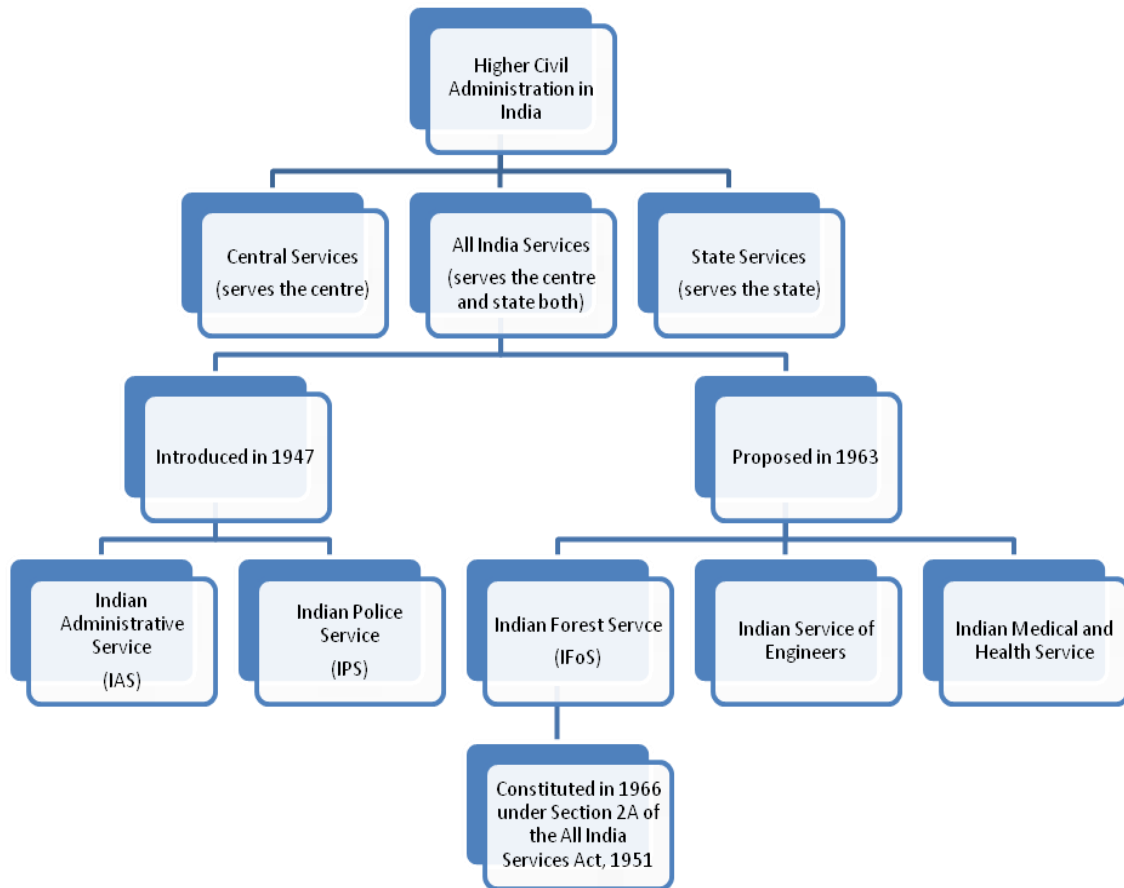
1. The second cause is lackadaisical “cadre review”. This is an exercise conducted jointly by the Centre and the States to designate certain strategic posts in the States as “cadre posts” and earmark them exclusively for IAS officers.
2. In Tamil Nadu, it is unconscionable that posts like Commissioner of Disciplinary Proceedings, Commissioner of Archaeology, and Commissioner of Museums have been designated as cadre posts.
3. A proper cadre review in all the States will release many IAS officers from non-strategic posts and reduce the shortage.

Downsizing the bloated Central Ministries

1. At the Centre, there is a strong case for downsizing the bloated Central Ministries dealing with subjects in the State List and the Concurrent List, thereby reducing the demand for IAS officers and the CDR obligations of the States.

Continuance of direct recruitment of officers to the Central Secretariat Service Group B

1. The third cause is the ill-advised discontinuance of direct recruitment of officers to the Central Secretariat Service Group B since 2000, and undue delays in the regular promotions of officers from the ranks in the Central Secretariat due to protracted litigation since 2011.
2. These officers used to occupy a sizeable proportion of Deputy Secretary/Director-level posts in the Central Secretariat.



Utilise the state civil services:

1. The fourth cause is the complete non-utilisation by the Centre of the services of officers who are appointed to the IAS by promotion or selection from the State Civil Services. This large pool of around 2,250 officers, usually in the age bracket of 35-55 years, who have immense field experience, remains State-bound.
2. It should be made mandatory for these officers to work for at least two years on Central deputation as Deputy Secretaries/Directors immediately after their appointment to the IAS and their training in Mussoorie.
3. Their next promotion in their State cadre should be subject to their completing this mandatory period of Central deputation. Officers who are over 50 years of age at the time of appointment may be exempted. This can solve the problem of shortage of Deputy Secretary/Director-level officers at the Centre in one stroke.



Administrative barriers to Central deputation

The fifth cause is the numerous administrative barriers to Central deputation imposed by the Centre itself in the form of highly restrictive conditions, perverse incentives, annual lapsing of offer lists, long debarment periods, compulsory cooling-off periods, etc.

Proposed solution

1. We suggest that it should be made mandatory for directly recruited IAS officers to serve at least three years on Central deputation between nine and 25 years of service.
2. Their promotion to Principal Secretary grade in their State cadre (usually after 25 years) should be subject to their completing this mandatory period of Central deputation.
3. This wider window will enable IAS officers to opt for Central deputation at their convenience and the Centre will also be assured of a steady, adequate supply of deputationists.
4. The process of empanelment of IAS officers for the posts of Joint Secretary, Additional Secretary and Secretary (or their equivalent) at the Centre is much reviled for being opaque and arbitrary.
5. The Centre should directly choose its Joint Secretaries, Additional Secretaries and Secretaries from among IAS officers “on offer” who are officiating in equivalent grades in State governments through a process of selection — in much the same manner as it chooses Deputy Secretaries/Directors.
6. This will make a larger, better talent pool available to the Centre and enable officers to use the experience gained in the State at various levels in the service of the Centre.

It is worth recalling that in 1947, India lost nearly 60% of its Indian Civil Service officers – British and Muslim – when the country was beset with far greater challenges than today. Sardar Patel showed great sagacity and overcame the shortage within a few years by working with the provinces (as they were called then) rather than against them. The sanctity of the principle of cooperative federalism and the interests of national unity and administrative efficiency demand nothing less.