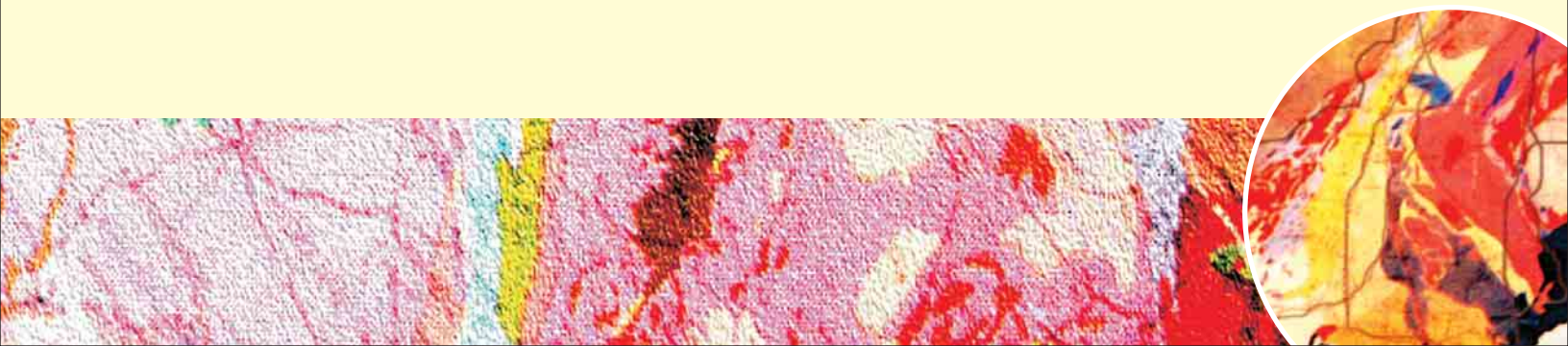


CONCERNS AND ISSUES



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V CHAPTER

5.1.0. Concerns

5.1.1. The Geological Survey of India is today at a crossroads. It can be argued that many major surveys, notably the USGS and BGS have been through similar situations, caused by fundamental changes in how government works, the role of the private sector, the proliferation of agencies doing the same thing in different ways or in an uncoordinated manner.

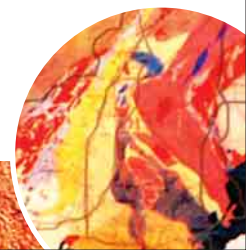
5.1.2. However, it must be recognized that issues relating to Geological Survey of India are not essentially of this character through issues of this nature also need to be addressed. As has been brought out in Chapter I, GSI has an impressive track record. Though in due course some specialized functions have spun off and new institutions such as IBM, MECL, ONGC, AMD, etc., have emerged, this has not weakened GSI significantly, instead enabling it to focus on its basic mandate. It may even be said that this a cause of self-congratulation that the activities of GSI are leading to increased tempo of geoscientific activities necessitating creation of new institutions.

5.1.3. It is significant that GSI has been the subject of a number of studies in the recent past, starting with the Kashyap Committee (1961), the Subramanyam Committee (1971), the A.K. Ghosh Committee (1977), Maastricht School Study (2000) and the Arvind Varma Committee (2003). As has been brought out in Chapter III, these Studies have looked at various aspects of GSI and have made a large number of recommendations relating to

- GSI's Charter and mandate
- Organisational structure
- Work procedures and work culture
- Staffing and HRD etc.

5.1.4. Based on the recommendation of the Kashyap Committee (1961) organizational restructuring of GSI into regions and wings were done, thus increasing GSI's reach and influence and creating the potential for expansion of GSI at the provincial level: something particularly relevant in the federal context.

5.1.5. Almost all equally and significantly, contributed to the changes in the mandate of the GSI and have enabled it to focus on survey, mapping and mineral resource assessments, providing GSI with the opportunity to innovate and modernize. An opportunity that GSI appears not to have made sufficient use of, instead ambling along at a 'business as usual' pace. It was only in the year 2000 that the Expert Committee on Modernisation was set up under the Chairmanship of Shri K. Krishnanunni, DDG(GSI), and its recommendations, though far reaching, were not followed up systematically and in a mission-mode. As Chapter-IV of this Report brings out, geoscientific activity is taking place over a wide arena with ever expanding frontiers, and GSI needs to 'run' even to stay in the same place!



5.1.6. Regrettably, work culture and procedures in GSI have not significantly improved despite the various Committee recommendations (in particular Ghosh Committee). Ambitious goal setting, effective control, accountability enforcement and introspective analysis are not hallmarks of GSI's management style. It was brought to the Committee's notice that given the predominantly field-nature of the organization where officers and staff work in remote areas under difficult conditions, it is necessary that the sense of comradeship, trust and confidence be strong and that in GSI this still appears to be there and certainly needs to be supported and reinforced. However, there appears to be no mechanism that systematically recognises individual or collective merit, promotes innovation in thought and action or ensures virtuous cycles of quality improvement and modernization.

5.1.7. The issues of staffing and HRD, in the view of the Committee, are the cause of the current crisis in GSI, but the causes are complex and multilayered, and that these issues have become more complex despite recommendations of earlier Committees are perhaps one of the reason for this Committee's constitution. And that is why this Committee feels strongly that unless issues relating to staffing and HRD are satisfactorily resolved, it will not be feasible to effectively implement its other recommendations.

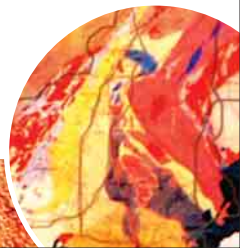
5.1.8. Groups of the GSI's total strength of about 12000 personnel are 18% Group D, 49% Group C, 04% Group B and 29% Group A. Groups C&D comprise support staff, Group B comprise mainly Technical and Scientific staff and Group A comprise predominantly scientific personnel. While there are some serious problems in HR and staffing at lower levels, it is the issues relating to Group A, in the view of this Committee, that have contributed most to the crisis; and the issues can conveniently be divided as follows:-

- **Top Level Management:** The Director-General is supported at Headquarters by 11 Sr. DDGs/DDGs respectively in charge of Finance, Personnel, CGL, Marine, Programming, IR&HR, Map & Info., Chemistry, Drilling, Mechanical, Geophysics and IT. There are serious problems in the management composition, structure and procedures, including:-
 - If the Director-General (DG) is not a Geologist of standing his ability to manage and control is seriously compromised.
 - The DG's span of control is too large, particularly with regard to work executed by Regional DDGs who report to him directly for most part.
 - While DDGs in-charge of the Wings i.e., Coal, Marine and AMSE and of Regions are Heads of Departments, the DDGs in-charge of Programming, IT, Map, IR&HR, Finance, Personnel, etc. are essentially staff officers, and powers and procedures supporting delegation are not fully in place, leading to centralization on the one hand and absence of accountability on the other.
 - Because of the lack of empowerment of the DDGs, target setting by the DG and monitoring and review of performance at top management level is almost impossible and the symptoms are most evident in respect of absence of outcome evaluation of Modernisation and IT issues.
 - Finance and Personnel Divisions are staffed down the hierarchy by in-house administrative personnel; DDG (Finance) is an excadre post and DDG (Personnel) is appointed by promotion failing which by deputation. Finance and Personnel management systems are extremely weak, because of lack of knowledge of procedures, lack of infusion of fresh blood at higher levels and lack of accountability.

- A paradoxical result is that references are made to the administrative Ministry on small issues of financial or administrative nature, which ought to have been dealt and resolved by GSI's top management while issue of policy, strategy, programme planning and evaluation of outputs and outcomes are neither conceptualized nor posed for discussion and resolution to the Ministry. This has serious consequences for GSI, because it is symptomatic of, and has led further to, the DG's loss of control over the human resources and to the Ministry's loss of control over the management resources that can help it formulate and execute policy relating to Geoscience.
- **Supervisory-Level Management:**
 - The DDGs of the Wings and Regions form the upper management. The constitution of these structures has clearly contributed to the growth of this level and the process needs to be strengthened. The strengthening has to be through encouraging expertise and through grant of sufficient operational and administrative autonomy to Regions and Wings.
 - A major problem has been slow promotions, as a result of which a Group A direct entrant becomes Director after 28 years of service and DDG after 33 years of service. In the Committee's view, Cadre management by GSI as well as the Ministry has been less than adequate. Needless to say, this has been highly detrimental to morale at the individual level and to efficiency at the organizational level.
- **Functional-Level Management:**
 - Given the essentially 'field' oriented work of GSI and its all-India spread, it is inevitable that at the heart of the system (Geologist/ Geophysicist, etc.) there will be a large number of younger field level officers engaged in work of an arduous nature in relative isolation away from their families for considerable periods. The systems to sustain encourage, nurture and motivate field officers seems to have evaporated and only vestiges of the old *esprit-de-corps* remains!
- Given the nature of taper of the pyramid, management of cadres in Group A pose serious difficulties, which need a comprehensive approach. There is no indication that GSI seriously and consistently attempted to adopt such an approach. Regrettably the administrative Ministry is perhaps inadequately equipped for an in-depth understanding of the crisis in the management of Group A resources. Indicative of this state of affairs is:-
 - failure to initiate cadre review for Group A for 15 years. This would have helped reduce stagnation at Director Level.
 - failure to complete the merger of the functions performed by Geophysicists (Instrumentation) and Mineral Physicists with those performed by Geophysicists in order to make Geophysics into a viable cadre for management purposes.
 - failure to take advantage of recommendations of the Arvind Varma Committee which increased Group A strength significantly to meet emerging challenges, and conduct regular recruitment to Group A to avoid accumulation of vacancies, which account for more than 50% of Group A strength at intake level etc.

5.2.0. Issues

5.2.1 The main concerns brought out in the previous paragraphs provide a starting framework for the issues that this Committee needs to address. As a basic approach, the Committee intends to take a holistic



and systemic view, and the subsequent chapters develop the various themes relating to programmatic goals and strategies as well as organizational requirements. Yet in order to ensure that the individual issues are not lost sight of, it is imperative to put down some of the more basic issues even if in an unstructured form. To the extent that the holistic approach does not adequately address them, they are addressed in Chapter-XIV 'Other Issues'.

- **Issues related to self-perception:**

Feedback from within GSI has revealed an interesting self-perception of the organization they work in:-

GSI scores well in

- team work, community culture, participation
- role clarity
- response to external demands
- tolerance of differences
- trust & ethics, etc.

GSI scores very poorly in

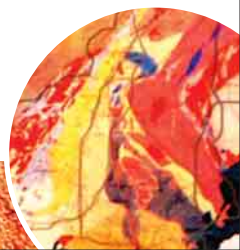
- communication within organization
- performance rewards
- culture of celebrating success
- cross functional collaboration
- nurturing talent & innovation
- risk taking and entrepreneurship
- openness to new ideas
- empowerment and delegation

5.2.2. The general perception is of a conservative, 'family-like' organization. Changing organizational culture to improve the self-image without disturbing work culture, which has fostered certain positive traits is clearly delicate work. Accordingly, this general principle needs to be kept in view while seeking answers to the following issues.

- **Issues relating to GSI's role & functions:**

- Should GSI concentrate on certain 'core competencies' like survey & mapping or should it strike out in new directions, like the six science directions of USGS. If so what are the new priority areas?
- How should GSI interface with various stakeholder communities in order to improve synergy, build sectoral capacity, and increase geoscientific knowledge?

- Should GSI develop further as a premier scientific institution or should it evolve in a new direction into the role of a policy-making institution, such as the role discharged by the administrative Ministry?
- Seeing that the mandate of GSI is much larger than mineral resource assessment, which is the Ministry of Mines' main concern, how should GSI develop mechanisms to ensure that the entire gamut of its activities receives adequate understanding and appreciation?
- **Issues related to planning:**
 - Why is GSI not doing enough long term policy planning?
 - Should it go for a seven year rolling plan system as recommended by Ghosh Committee, to stabilize long range planning?
 - Should 'Planning' be separated from 'Programming' and 'Monitoring' in the PPM Division of GSI Headquarters to ensure greater focus on each of the 3 issues?
- **Issues relating creativity, innovation and excellence:**
 - Does the system of research publications need an overhaul to encourage publication of quarterly research findings?
 - How should GSI's management practices be changed to recognize and promote excellence at individual and organizational levels?
 - Are there impediments arising out of GSI's position as a Government institution? What structure (corporate, statutory, etc.) would better enable GSI to excel at what it should be doing?
 - Would creation of a Centre of Excellence such as a GeoScience Institute for R&D help promote creativity?
 - Is the Human Resource in GSI capable of creativity and innovation? What needs to be done to bring the best out of the existing resources and in improving the quality of resources?
 - Is there an issue of Leadership? Is GSI producing enough Leaders?
 - How should the relationship between GSI and the administrative Ministry be made more functional, allowing GSI sufficient autonomy to encourage creativity and innovation, while enforcing the right degree of accountability to foster excellence?
- **Issues relating to management and administrative structures:**
 - Should the post of Director General be occupied only by a Geologist of eminence, as is the case in USGS, BGS and other leading geological survey institutions?
 - How should the top management structure be improved to reduce span of control and increase delegated responsibility? Should the concept of Wings be extended to all parts of the top management in order localize responsibility as well as accountability?



- Is a 'matrix' type management structure as recommended by the Ghosh Committee and as apparently successfully implemented by USGS and GSC really workable in the context of GSI? Is a hybrid system workable where coordinated programme execution and expertise receives sufficient focus? Could the expertise flow through a 'Wing' structure with administrative management through a 'Region' structure for a reasonably hybridized matrix-like management?
- Is the way Regions and Operational Units are organized sufficiently well structured to promote efficient programme planning and execution? Does it promote expertise?
- How should financial arrangements be made so as to facilitate project executors in accessing funds easily? Should scheme-wise funds be placed at the disposal of the Wing responsible for the Scheme for allocation to regions? Or should funds be placed directly with Regions but generally controlled through a scheme format from the wing? Or as at present should funds remain at Headquarters to be allocated from time to time as required?
- **Issues relating to Human Resource Management:**
 - In order to remove stagnation at middle levels in various Group A service, it is necessary that:-
 - the pyramidal structure be rationalized.
 - cadres are made viable by eliminating small cadres and distributing or outsourcing their functions.
 - lateral entry is eliminated and a reasonable ratio of promotions to direct recruitment is kept to ensure an 'age-spread' at most levels.

How should these principles be applied in the case of GSI?

- In order to improve human resource quality, what should be the educational and experience requirements at recruitment and promotion levels for various cadres and services?
- Should the Training Infrastructure be linked more closely with the Region so that not only is the infrastructure more responsible to regional needs but the officers at the Region function as resource-persons, improving training inputs on the one hand and ensuring that their stay in touch with the Science on the other.
- Is the transfer & posting policy effective in ensuring specialization on the one hand and proper accountability for project outcomes on the other?
- **Other issues related to enabling GSI to face the challenges of the future:**
 - The major issue in GSI is perception of its own role. GSI views itself as an organization pursuing science for its own sake. Most other Geological Surveys have metamorphosed into public Service institutions, geared to educating and informing policy makers and the public, but GSI is clearly reluctant to part with the huge volumes of priceless information gathered painstakingly over the last 150 years. In particular, GSI seems to have a mental block in putting its information out on Internet hoarding it to increase its self-perception of indispensability.

- IT readiness, not surprisingly, is a major issue. Though the Expert Committee on Modernisation has recommended creating of IT infrastructure, clearly problems exist with regard to GSI switching over to electronic information management for its internal management processes as well as for its business processes. How to improve GSI's physical and psychological capacity in this regard and how much of it should be in-house needs to be addressed.
- Quality management is also a major issue. There are no procedures for quality audit or peer reviews of outputs other than publications.
- Resistance to change in management and operational methods appears to be a major factor preventing growth. Outsourcing of non-core activities, development of PPP models for synergetic growth and partnerships with stakeholders are all concepts to which there is deep reservation within GSI, and which needs to be overcome.
- Getting bright young people to take up geoscience is already an issue and likely to be a crucial issue very soon. Given the arduous nature of the work and the remuneration available in the private sector, finding talent is a major challenge. GSI needs to be proactive, by popularizing Geoscience in schools and colleges and in public fora. GSI needs to be assisted in setting up museums and parks and libraries so that the public can access geoscientific concepts. GSI also needs to develop professional communication skills to produce high quality audio-visual and printed material for public consumption. Institutions such as the USGS, BGS and GSC have invested substantial resources for the purpose and have attained impressive public credibility and respect. Communications as an activity is treated as peripheral by GSI presently and that is part of the reason for the lack of attention to GSI's other problems.
- Since much of the initial years of a geoscientist is in the field, there is a need to ensure that his field postings (project work) are reasonably comfortable and he is equipped with the best possible field equipment including rugged Tablet PCs, GPS, Cell phone, digital camera etc.

The issue of whether GSI needs to 'commercialise' its operations needs to be analysed in depth. At one level GSI performs a public service out of public funds. Major geological surveys across the world, including USGS and GSC not only do not charge for their services but take pride in putting out as much information out as possible in the public domain proactively and free of cost. There is a conscious Government policy in this regard on the premise that the nature of data they collect is fundamental and has multiple short term and long term uses, and that people having a right to know and that the economy and governance benefits much more by having free access to this fundamental data to which they can add value within their own domain. Given the level of use of geoscientific data within the country in Government (Central, State and Local) and in the private sector, it needs to be given serious attention whether restricting access to geoscientific data on 'commercial' considerations has not been hugely counterproductive and whether putting data out in public domain will not only help the public, it will also help GSI become a better institution by enabling stakeholder scrutiny of the quality of information it produces.

