

CHAPTER IX

SUPPORT SYSTEMS



In Chapter VIII a broad roadmap of GSI's Organizational structure has been provided and activities other than core geoscience activities have been clubbed under 'Support Systems'. Three Support Systems each under an Addl. D.G with a DDG in-charge of each of the Units (which may be called a Division) are proposed. Functions and recommendations for activities of various divisions under Support Systems are as follows: -

9.1.0. S & T SUPPORT SYSTEM

9.1.1. IT Infrastructure and Connectivity:

9.1.1.1. The IT physical infrastructure and network has in the past been linked together with the 'content' part comprising the application softwares and the delays and the slow rolling out of GSI IT system is largely due to this. Once the content and the physical infrastructure are both in place, it is essential to professionalize the management of both sectors in their own separate ways. While Geoinformatics, dealing with content is a core activity, included in GSI's charter, the physical infrastructure and networking clearly constitutes a support function and needs to be managed as such, in keeping with the best standards and practices. The services will be provided (at Central headquarters, Regions and State Units) by maintenance contracts and supply and installation contracts with OEM and authorized agents, with an in-house team at GSI's headquarters responsible for overall planning, budgeting, contracting, management and coordination with the vendors. While minor contracts would be entered into directly, major contracts involving system enhancement and changes would be managed through engaging professional IT consultants who would generally be responsible for preparing the system requirements and specifications, and advising on selection of vendors and monitoring the execution of the contract. The manpower requirement for this division is detailed in Chapter-X.

9.1.2 Laboratory Network:

9.1.2.1 In Chapter II details about existing laboratories have been provided. The Geological Survey of India laboratories may be classified as:

- All India Facilities, operating at various centres and providing data of a very specialized nature to users spread over the entire country covering different regions of the department
- Regional-level laboratories, located at the Regional headquarters, predominantly catering to the specific needs of the Regions, providing basic and advanced data to the on-going investigations
- Basic laboratories at State/Project level

9.1.2.3. An Expert Panel on Modernization of GSI (constituted in 1999 by the Ministry of Mines on the advice of the Parliamentary Standing Committee on Industries) identified several areas for improvement covering many areas including laboratory studies and this panel recommended modernization of equipment which was taken up as a thrust area during the Xth Plan. Under this



scheme, several state-of-the-art equipment have been procured. The thrust on modernization is being continued during the XI Plan period also and many high-technology instruments covering various geoscience disciplines have been inducted/ are being procured.

9.1.2.4 However, induction of high-end technology without adequate infrastructural and manpower support is one of the serious problems facing GSI at present and needs to be addressed immediately for the modernization programme to be successful and effective. Unacceptably high machine down time and low utilization of expensive instruments and equipments are current manifestations of these shortcomings and are assuming ominous proportions unless redressed immediately. The major problems faced in operating laboratories are:-

- Lack of skilled manpower for the running of these sophisticated instruments even for one shift, whereas for optimum utilization the laboratories under high workload should be operating in at least 2 shifts.
- Woefully inadequate maintenance of laboratory premises necessary for ultra-clean environment, mandatory for some laboratories such as U-Pb geochronology etc.
- Uninterrupted good quality power supply and fall-back arrangements.
- Lack of appropriate financial arrangements for running high-tech equipments. All laboratories require 'on demand' availability of contingency funds for running of the equipment including funds for consumables, spares, maintenance management, etc. Currently, the financial system is not geared to providing funds to meet urgent and unanticipated needs.
- Highly complicated and time-consuming procurement processes for spares. Delays lead to breakdown of machines and stoppage of work for a considerable time,
- Lack of professional laboratory culture; lack of accountability for output and quality.

9.1.2.5. It appears that there is no clearly defined policy for laboratory management, monitoring of preventive maintenance, comprehensive yearly batch- maintenance contracts or a holistic view of all similar instruments in the organization. No effort has been made for building up a system for sound maintenance of sophisticated equipment on professional lines. At present, the laboratories are located at Central Headquarters, Regions and Wings (except in the case of chemical laboratories which are also located at State Unit level), and are managed separately from the headquarters, region and wing respectively. The Committee is of the firm view that the laboratory network should be adequately integrated for better management and more coordinated service delivery while day-to-day operational management should continue as heretofore. The Committee accordingly recommends that the Laboratory Support System should be placed in S&T Support System headed by an Addl. D.G, with a Dy. D.G each for overall management of geological, geophysical and chemical laboratory networks. Major procurements (particularly of expensive and imported equipment) and overall planning and budgeting should be done centrally with the assistance of the Asset Procurement Management Support System. The Laboratory system should be adequately networked through the WAN for management and analysis, as is already planned (though not operationalised).

9.1.2.6. Vast scope exists for upgrading the present laboratories not only in terms of equipment, but also in developing further specialization and networking for better management. The Committee recommends that GSI should constitute Committee of Experts from within GSI and outside to develop a

plan for creating state-of-the-art laboratory facilities related to the new charter of GSI and GSI should also get these laboratories accredited for standardization and international credibility.

9.1.2.7. As stated above, GSI laboratories are distributed all over the country and the instruments in these laboratories are procured keeping in mind the specialized activity in the respective regions. GSI has to implement a networked system by which different samples of a project analyzed in the laboratories of the specializing region is made available to the nodal region for integration and interpretation. The ultimate aim is that Laboratory reports should be context-based interpretation prepared in consultation with the State Unit or Divisions concerned. Simultaneously, a concept of 'ExtraNet' should be initiated to link GSI's laboratories with laboratories of geoscientific institutions within the country to optimally utilize the expensive and sophisticated equipment and trained manpower within GSI and the participating institutions.

9.1.2.8. For improvement of operational conditions the Committee suggests:-

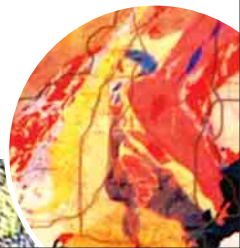
- Centralized maintenance management of sophisticated equipment for quick response.
- Adequate delegation of powers and budget to State level for consumables.
- Outsourcing of maintenance of laboratory environs.
- Closer monitoring of laboratory equipment usage, output and operating costs.
- Developing systems and procedures for doing contract works for other geoscientific agencies where sophisticated equipments is involved, on reciprocal or other basis.
- Development of jobbing, outsourcing or public-private partnership models for laboratory activities likely to continue for long periods such as NGCM segments.
- Training and HRD of laboratory personnel.
- Encouragement to research and publication.

9.1.2.9. The Committee would like to place emphasis that adequate integration of field and laboratory work must be ensured at the Regional and State Unit level under the control of the Addl. D.G and Dy.D.G concerned respectively.

9.1.2.10. The manpower requirement for laboratory functions is indicated in Table-IX.5 to Table-IX.7 in Chapter-VIII.

9.2.0. Assets Procurement & Management (AP&M):

9.2.1. At present assets and stores below the value of Rs.10 lakhs for new items and Rs.20 lakhs for replacement equipment are indented by Regions. A Purchase Advisory Committee in each Region examines the need for the items. Higher value items are procured through a Task Force assisted by the Materials Management Division (MMD). A Central Provisional Authority (CPA) headed by the Sr. Dy. Director General/ Dy. Director General of the stream ensures that the specifications are well standardized. The Task Force then prioritize the items for procurement. The Task Force is a mechanism instituted by CHQ, consisting of the DDGs in-charge of the Wings and Regions. The Seniormost DDG is the Chairman while Director (Planning), PPM Division is the Secretary. Controller of Stores of the Materials Management Division and DDG (F) Director (Finance) are also members. The approvals for



purchase as well as specifications are given through the Task Force. The actual procurement is then done by the Region/Wing concerned in most cases; C.O.S may procure very high-cost sophisticated equipment where CHQ decision making at multiple stages is involved. When procurement is done by Region, the DCOS of the Region processes the case, with the actual decision being taken at the level of the HOD.

The Committee feels that there is considerable scope for making the process more efficient and recommends that the Purchase Advisory Committees may draw up separate lists for items within their powers and item which need be approved by Task Force. The latter list needs to include items for each of the next 3 years on a rolling basis. The Task Force may sequence the procurement action keeping in view the lead time for procurement so that the plan for budget utilization is well considered.

- Specifications would be standardized through the CPA so as to enable multiple indents of various Regions to be procured through one tendering process to the extent possible, through the Task Force mechanism.
- E-procurement systems should be operationalised in order to further streamline the process.

9.2.2. The Committee would also like to emphasize the need for:

- Development of 3- to 5-year rolling plans for high-value assets including sophisticated laboratory equipments
- Planning based on procurement lead time as well as need;
- Close monitoring of e-procurement systems to ensure effective working;
- Updating of the Stores/Procurement Manual, standardizing procedures;
- Development and continuous updating of Book of Specifications and codification of store items;
- Reordering principles and determination of norms for stock inventory;
- Clear inspection, acceptance and warranty procedures, properly enforced, and
- Maintenance contracting procedures.

The Committee is of the view that the Task Force should be a full-fledged monitoring mechanism for the entire procurement action and that it should (in collaboration with the stream-specific provisioning authority) monitor on a monthly basis progress of indenting, tendering, evaluating, placement of orders, operation of L/C, receipt of items, inspection, acceptance, commissioning and training procedures in respect of the items for which it is involved (i.e. more than Rs. 10 lakhs for new item and Rs.20 lakhs for replacement at present). The Task Force may accordingly be renamed as the 'Central Procurement Management Committee' (CPMC) and the Central Provisioning Committee may be renamed as the 'Central Technical Specification Committee' (CTSC).

9.2.3. The Committee has also taken note of Government directions with regard to outsourcing of various non-core functions and services. While the actual outsourcing of a service would be with the Division/Wing tasked with the function, development of detailed procedures, tendering and contracting documentation and development of standard contract management procedures in respect of outsourcing of services would need to be developed by the Wing/Support System concerned in consultation with the MM Division, to be renamed the AP&M Division.

9.2.4. The present sanctioned strength as proposed by the Expert Committee for the AP&M (Material Management Division) is 475 and the distribution is given in Table – IX.1

9.2.4.1. The Committee feels that the proposed sanctioned strength and cadre structure for Group A & B as suggested by the Expert Committee is appropriate. All efforts be made to fill the vacancies in Group A&B in the interest of efficiency. However, it is felt that 400 posts in Group B Non-Gazetted and Group C be appropriately redistributed across Regions and State units.

Table – IX.1

AP&M (MM) Division Manpower Strength

Stream	Group	Level (Designation)	Scale (As per V CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %	
							DR	DPC
1	2	3	4	5	6	7	8	9
MMD	Group- A	Controller of Stores	Rs. 12000 – 16500	1	1	2**		100%
		Dy. Controller of Stores	Rs.10000 – 15200	7		7		100%
	Group B (Gaz)	@Stores Manager	Rs. 7500 – 12000	10	10	10		100%
		Stores Officer	Rs. 7450 – 11500	57	32	56	10%	90%
	Group B (Non-Gaz.)	#Store Supdt.	Rs. 5500 – 9000	50	39	50	25%	75%
	Group C	#Store Keeper	Rs. 5000 – 8000	110	110	110		100%
		Asstt. Store Keeper	Rs. 4000 – 6000	110	33	110		100%
		Store Clerk	Rs. 3050 – 4590	85	11	85	50%	50%
		Store Attendant	Rs. 2650 – 4000	45	4	45	100%	
	TOTAL				475		475	

: Indicative. Actual percentage and other modalities may be worked in consultation with DoPT

#: Scales merged based on recommendation of 6th CPC to be suitably designated.

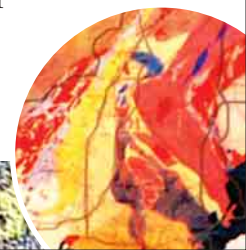
@: Presently there is no approved R. Rules for this post.

** : One additional post of Controller of Stores recommended by upgradation [One COS to operate at CHQ and the other will coordinate work of Regions and Wings].

: After the recommendation with regard to a close monitoring and coordinating role for the CPMC are successfully implemented, the Ministry may consider whether the Secretary to the CPMC should be in the next higher scale of pay.

9.3.0. Survey Stream:

9.3.1. The Surveyors in GSI are part of field parties and carry out accurate and parametric surveys to provide inputs to geological investigations of specialized nature like dams, tunnels, landslide, engineering geology projects and in high-precision geophysical/geodetic surveys specially in studying very minute ground movements/slips which are precursors to earthquakes. The Surveyors are also required for assisting coastal geologists in assessing and measuring with high accuracy the ephemeral processes taking place in nearshore areas to help predict stability of long coast line and coastal areas. With advancement of GPS and digital survey technologies survey and field map services will undergo radical changes and the survey stream has to be structured around modern methods and higher productivity.



9.3.2 The present sanctioned strength for Survey stream is given in Table – IX.2. In view of the newly proposed national programmes envisaged, like geomorphologic mapping of the country, hyper-spectral mapping of the Obvious Geological Provenances (OGP), and to take up NGCM programme in fast track, it is imperative that the strength of Survey stream be augmented to 380 along with introduction of executive and supervisory level post with qualification of graduation in engineering (surveying) or AMIE. However, the induction and career progression for Group B & C posts should be linked with appropriate qualifications in surveying. It is also proposed that the 65 sanctioned posts of Surveyors may be upgraded to JTA level and post of Surveyors be abolished. It is also recommended that up to STS level must be a field-level post.

Table – IX. 2

Survey Stream Manpower Requirement

Stream	Group	Level (Designation)	Scale (As per V CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %	
							DR	DPC
1	2	3	4	5	6	7	8	9
Survey	Group A (Gaz)	JAG	Rs.12000 – 16500	-	-	1	-	100%
		STS 15200	Rs.10000 –	-	-	10	-	100%
		Survey Officer	Rs.8,000 – 13,500	2	1	20	-	100%
	Group B (Gaz)	Officer Surveyor	Rs. 7450 – 11500	16		38	25%	75%
	Group B (Non-Gaz)	#STA (Survey)	Rs. 5500 - 9000	85	80	156	-	100%
	& Group C	#JTA (Survey) Surveyor	Rs. 5000 – 8000 Rs. 4000 – 6000	100 65	120 7	125 *	100% *	- *
TOTAL				268		350		

: Indicative. Actual percentage and other modalities may be worked in consultation with DoPT

#: Merged scales as accepted by Government on the 6th CPC Recommendation.

*: Proposed to be upgraded.

9.3.3 With increasing project-mode activities in the near future and new national-level projects, it is necessary that survey personnel must be proficient in computers, particularly design, plotting softwares. Persons with Masters/ Bachelors in Civil Engineering and with experience in Total Stations/GPS-related technology may be inducted at Group B (Gazetted) level to enable upgradation of technology for the Survey field work. The Committee recommends that GSITI should conduct regular courses for Surveyors especially for acquainting them with modern survey equipment and techniques.

9.4.0. Drawing Stream:

9.4.1 This stream operates from the Headquarters. The job of the stream is to prepare the final copy of maps and plates, which form important annexure of different reports. The Draftsmen carry out various types of tracing, drawing, lettering, copying and coloring of maps and plans, prepared by the Geologists/Geophysicists/Surveyors in the field as well as preparation of base maps from air photographs and indexing, keeping costs and maintenance of air photographs. The drawing stream strength indicated in Table – IX.3.

9.4.2 The Expert Committee had fixed the strength for Drawing Stream Group- B & C as 412. It is felt that with the advance digital technology with appropriate drawing software the final maps can be generated using laptops etc. in the field itself by the Geologist/ Geophysicists/Surveyors. Therefore, maintaining such a large cadre strength in this stream is inappropriate and it is suggested that the cadre strength in Group-C should be brought down gradually to 168 [30 in CHQ, 12 in each Region and 3 each in 22 State units with the services of draftsman pooled at CHQ and at Regional HQ] by way of natural attrition by March 2018 and with appropriate distribution in different drawing sections. The manpower requirement is given in Table – IX.3.

Table – IX.3

Drawing Stream Manpower Requirement

Stream	Group	Level (Designation)	Scale (As per V CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %	
							DR	DPC
1	2	3	4	5	6	7	8	9
	Group B (Gaz)	Artist	Rs. 7450 – 11500	12	8	1	-	100%
	Group B (Non-Gaz) & Group C	#STA (Drawing)	Rs. 5500 – 9000	65	108	10	-	100%
		#JTA (Drawing)	Rs. 5000 – 8000	285	255	107	50%	50%
		Map Mounter (Sr)	Rs. 4000 – 6000	20	10	30	-	100%
		Map Mounter	Rs.3050 – 4590	30	38	20	-	100%*
TOTAL				412	389	168		

: Indicative. Actual percentage and other modalities may be worked in consultation with DoPT

#: Merged scales as accepted by Government on the 6th CPC Recommendations.

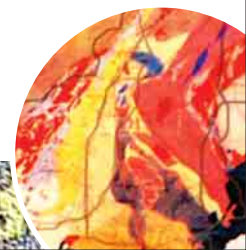
* In the Drawing stream there is 100% promotional post for Group D (Technical Attendant/ Office Attendant/Security Attendant as well as Technical Attendant).

9.5.0. Drilling and Workshop:

9.5.1. Geological Survey of India has been actively engaged in drilling for minerals and stratigraphic studies for more than a century. The earliest drilling records date back to 1868 in the Wardha Coal field of Maharashtra. GSI at present has a fleet strength of 98 drills, in the capacity range from 300 m to 1200 m. Each Region and Coal/ AMSE Wing has a Drilling Division headed by a Director-level officer. The drill rigs are deployed for geological investigations in the energy sector as well as base metals, precious metals, industrial mineral sector and seismic microzonation, landslide studies etc.

9.5.2. The Committee was informed that constraints faced in running drilling operations include:

- Funding of the drilling operation, which is through a Rolling Contingent Advance of Rs 30,000 in the name of the unit in-charge and is grossly inadequate, and
- Only single-shift operation is run in the drill units because of shortage of manpower. A majority of Group-C drilling staff are above 50 which tells upon efficiency, as drilling operation is a laborious job with field deployment round the year.



9.5.3. To obviate the problem of staff shortage the Committee recommends immediate merger of staff from GSI's existing workshops, which has already been decided by the Government to be closed down based on Expert Committee recommendation, for retraining and redeployment for drilling operations. The Committee would also suggest that the issue of contingent advance be examined along with the issue of delegation of financial powers within GSI.

9.5.4. Mineral exploration being done by Geological Survey of India for ascertaining the resource base of the minerals is on a Regional basis. The programme of drilling in an area is finalized with the approximate number of boreholes to be drilled and their tentative depth. The programme depends on the visual estimate arrived at by the Area Geologist based on subsurface geological information extracted from a pilot borehole. GSI is of the view that drilling has therefore to be an in-house activity. The Committee is of the view that management of in-house drilling capabilities can be highly uneconomic if productivity norms are not fixed and monitored, and it would be best if at least a part of the drilling programme is outsourced.

9.5.5. **Drill Core Library:** GSI has embarked upon preserving drill cores of selected drill holes of mineralized and stratigraphically important deposits for posterity. It is recommended that drill core libraries be established and maintained by GSI at each Regional Office and GSI should prepare the framework for a National Drill Core Repository in line with best international practice, so that, if necessary backed by suitable Legislation, drill core samples are archived with the National Drill core Repository at the Regional Drill Core Libraries, with suitable category and indexing. It is also recommended that digital record of drill cores preserved should be maintained online through the Portal and a policy should be put in place which allows use of core samples by concession holders on appropriate terms and conditions.

9.5.6. The Committee accordingly recommends the following:-

- i) A study may be conducted of drilling practices of major mining and exploration companies in India to determine how drilling services are procured and managed.
- ii) The study may also do a comparative study and establish norms for drilling in various kinds of strata.
- iii) GSI may invite Region-wise Expressions of Interest for carrying out part of its drilling through rate contracts (on per meter basis, with minimum and maximum likely drilling meterage). This can be done on experimental basis in a particular region or for specific kind of activity (base metal, coal, etc.); and/or
- iv) GSI may finalize a long-term MOU with MECL for taking up drilling on its behalf. The MOU may specify approximate quantum of work and payment may be generally based on output norms prevailing in equivalent sectors the industry.

The strength for this division is indicated in Table – VIII.8, Chapter – VIII.

9.5.7. The Expert Committee, 2002 recommended winding up of Workshops in GSI and Government has accepted the recommendation. This Committee sees no reason for change in this position and recommends that the Government decision be implemented immediately with staff retrained and redeployed for drilling operations under the Engineering Stream. As on 01.11.2009 men in position under this category were 343. This will also cater to the requirements of the drilling division. The total strength of Engineering stream after merger of workshop personnel shall be restricted to 1100.

9.6.0. Transport:

9.6.1. The Department has 1194 vehicles comprising 776 Jeeps, 157 cars, 6 Pick-up vans, 93 MUVs, 156 Trucks and 8 Special Purpose Vehicles.

9.6.2. The status of vehicle management in GSI is dismal: 45 percent (ie. 632 Nos.) of total vehicles are 20 plus years old and out of these 632 vehicles 304 have covered more than 1,50,000 km. From the figures made available, the operating cost in Northern Region is over Rs. 31.00 per kilometer, which is totally unacceptable by any standards. The Committee is of the view that GSI should immediately prune its fleet of vehicles to manageable proportions and outsource vehicle requirements for non-field use.

9.6.3. Accordingly the Committee recommends that:

- i) GSI may only procure and manage field-use vehicles i.e. Jeeps /Gypsies.
- ii) All cars must be outsourced. Suitable entitlement norms may be fixed for senior officers i.e. D.G., Addl. D.G and DDGs in terms of the kind of vehicle and kilometerage, in order to encourage switchover to outsourcing for officers at these levels. POL budgets may be cut accordingly and funds budgeted for outsourcing vehicles.
- iii) The strength of in-house vehicles (Jeeps, Gypsies and other field vehicles) and drivers may be fixed accordingly at 800 as already approved by the Ministry of Mines.
- iv) An internal committee may be constituted in GSI to work out operational norms for field vehicles and re-fixation of vehicles and driver strength for various activities.

9.6.4. The staff strength for drivers should be commensurate to the number of vehicles in the Department which is 800 as recommended by the Expert Committee in 2002. Incumbents in position as on 01.11.2008 are 981. With the phasing out of old vehicles, over a period of next five years i.e. 2014 the driver's strength should be stabilized at 800 through non-filling of vacancies arising out of retirements and through natural attrition.

9.7.0. ADMINISTRATIVE SUPPORT SYSTEM

9.7.1. **Finance:** Presently, the Sr. Deputy Directors General/Deputy Directors General (HAG/SAG level) function as 'Head of Department' (HOD) to oversee the formulation and implementation of annual programmes, exercise budgetary control, allocate the resources, in addition to executive and other controls on Divisions/Projects within the Regions.

9.7.2. Besides the functional units in the respective headquarters, each Region comprises State-based Operational units, which are mostly headed by SAG level officers. The officer concerned also operates the budget further allocated down the line from the Regional HODs, and coordinates the inter-disciplinary activities.

9.7.3. GSI is fully funded by the Government through annual budgetary grants. The Dy. Director General (Finance), an ex-cadre SAG – level Officer, heads the Finance Wing at the Central Headquarters and is the advisor to the Director General on all finance-related matters. The Dy. D.G (Fin) is assisted by one Director (Fin) and other subordinate accounts personnel.



9.7.4. Finance Wing performs the following important functions:-

- Financial Planning (including Five Year Plan and Annual Plan data)
- Budgeting
- Advice on expenditure management

9.7.5. Budgeting: Since financial support for GSI activities is met fully through the general budget (Domestic Budgetary Support (DBS)) of Government of India, the process of budget formulation is linked with the projected Annual Plan Document where the planned activities of various units of GSI are outlined and is generally as follows:-

- State Units submit budget estimates (BE) to Regional Headquarters, as per ongoing and planned programmes. Annual Plan and Five Year Plan documents form the basis.
- Consolidation of BE of State Units, including Region's own estimates, are done at Regional Headquarters
- Consolidation of budget Estimates of Regions/Wings by the Finance Wing, CHQ, including CHQ's own estimates. Submission of BE of GSI by Finance Wing to the Ministry of Mines
- Final estimates are firmed up in consultation with the Finance Ministry for Non-Plan and Planning Commission for Plan
- The Demand of the Ministry, as approved by Parliament contains the actual BE detailed out scheme-wise for operational activities.

9.7.6 The Budget while specifying the scheme-wise allocation does not include Region-wise allocation except to the North-Eastern States. The PPM Division allocates Plan funds and Finance Division allocates Non-Plan funds, to the Region and the three specialized Wings and Training Institute depending on specific demands according to their annual projected targets. The funds allocated to the Regions and Wings are further re-allocated to their respective State Offices by the HODs.

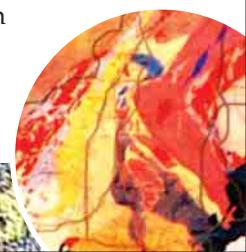
9.8.0. Expenditure Management:-

9.8.1 Expenditures are planned in accordance with the provision of the General Finance Rules (GFR) and instructions from Ministry of Finance from time to time including the Fiscal Responsibility and Budget Management [FRBM] Act etc. The general pattern is as follows:

- Funds allocated to State units budget head-wise are expended by the Head of Office (DDG level), who draws and disburses the salary, operational expenses and advances for the project/field units. Accounts are managed by the administrative staff of the units, including a Cost Accountant.
- Funds at Regional/Wing level are expended by the Head of Department. These funds include funds for salaries, operational expenses and purchase of Stores and equipment. An officer at Director level directly supervises expenditure activities and accounts are managed by the accounting staff of the Region headed by a Cost Accounts Officer.
- Funds at Headquarters are expended by the Head of Department for the Wing (i.e. Coal, Marine, AMSE and Training Institute) or by the DDG designated as Head of the Department at CHQ, with the concurrence of the DDG (Finance)/Finance Wing.

9.8.2. The main constraints in the present Financial Management system are highlighted below:

- The financial powers delegated to the D.G, GSI are perceived as being inadequate. The present delegation in respect of a few crucial items are:
 - Up to Rs.50 lakhs towards sanction for purchasing equipment, instrument, both new and replacement
 - Rs. 20,000/- for procurement of rate/running contract items through direct purchase procedure
 - Rs. 3000/- per month towards rent for hiring of ordinary office accommodation (other than the metro cities)
 - Rs. 5 lakhs in each case towards chartering of aircrafts/helicopters for survey work.
 - Rs.1,000/- per lecture(s) towards grant of honorarium to outside faculty.
 - Upto Rs. 2.00 lakhs i.e. cost price at book value per vehicle for condemnation/ declaring motor vehicle as unserviceable and to accord disposal sanction.
- Regional Heads (HODs) too are perceived as having limited financial powers, which makes them dependant on CHQ for many of the routine expenditures necessary for carrying out the activities of the Region. For example:
 - Nil power towards sanction of expenditure and drawal of advance for expeditions sent to higher altitudes
 - Rs.10,000/- in each case towards drawal of advance for meeting expenses on repairs of machinery/equipments in field
 - Rs.10,000/-per annum (recurring) towards incurring contingent expenditure on items other than those covered by annexure to schedule of DFPR
 - Rs.10,000/- per annum towards hiring of land for camping for drilling purposes in field
 - Rs.1.00 lakh towards purchase of computers including personal computers.
- There is a problem of timely fund flow between the Finance Wing, CHQ and the Regions/Wings. Delays arise because of the lack of regular and timely submission of latest reconciled expenditure figures by the Regions/Wings to the Finance Wing, GSI CHQ, against the allotments made to them. The practice of regular reconciliation with PAOs is also not strictly followed by the Regions and Operations.
- A similar constraint in fund flow exists between the Region and State units, especially in cases where the State unit is located in a different city.
- Projects/field-level units are often starved of funds since partial replenishments/ recoupment of funds are made periodically from State or Regional Headquarters where the accounts are maintained, against adjustment bills. The adjustment procedure for bills submitted is elaborate and time consuming, involving pre-audit examination and adjustment at the local PAO level in



each case. These delays have an adverse effect on the work schedule and achievement of set targets of the project/field investigation.

- There are often co-ordination problems (financial and administrative) in multidisciplinary mode of operation where personnel from different disciplines, each with separate sources of funds and administrative/ technical control, work in a single investigation, especially where the activities are interlinked.
- Loose financial monitoring at the Regional and State levels results in either shortages in funds or large unspent balances at the end of the financial year. Lack of regular feedback on expenditure from the Regions/Wings to the Finance Wing, CHQ also hinders full utilization of allocated funds.
- Financial expertise at Regional and State levels is inadequate. Trained finance personnel are not available in many of the Regional offices for budgeting and expenditure management.
- In the case of laboratories, each with several sophisticated high-technology equipment, the existing Financial Rules (GFR, etc) does not permit regular/routine spending for the running of the laboratories in a fashion similar to field establishment through contingent advances.

9.8.3. The Committee has carefully considered all aspects of the matter and is of the view that even with the limited human resources available, GSI's performance can be significantly improved with better financial management, and to this end it recommends:

- The post of Financial Advisor to the GSI should continue to be an ex-cadre post, to be filled on deputation from Central/ State Government organization by persons with at least 10 years experience in planning, budgeting and expenditure management. The post may be kept at the level of Additional Director General to attract suitable persons and officers in SAG grade with adequate experience may also be considered for appointment in case no person in HAG grade is available for deputation.
- Immediate decentralization of financial (and administrative) powers to the GSI commensurate with its status as an Attached Office, till such time as statutory powers is conferred. A proposal is already stated to be under examination in the Ministry in this regard and the Committee hopes that there will be an early decision in the matter[^].
- Immediate delegation of adequate financial (and administrative) powers by the DG, GSI to the HODs in-charge of Wings and Regions, with corresponding delegation to the Heads of Offices at State level.
- Implementation of 'e-lekha' accounting software module developed by NIC along with sanction-capture interface module in order to seamlessly manage the sanction-expenditure-reconciliation allotment process. This would imply inclusion of the PAO and Controller of Accounts at Wing/Region/ State levels in the WAN of GSI.
- Review of the system of allocating budgets to the Wings/Regions/State levels. A Committee consisting of GSI financial officers and Internal Finance Division of the Ministry may study the

[^]: Revised Delegation of Financial Powers to D.G., GSI, have been issued vide Order No. 18/2/2008-M.II dated 23.03.09

existing procedure and work out a system of quarterly allocation based on Finance Ministry expenditure norms in order to better regulate the expenditure. This should replace the existing system of allocating 80% of the BE at one go, but not monitoring the expenditure till RE stage. In particular the system should ensure that funds obtained through Vote-on-account at the beginning of the Financial Year are expended effectively so that time is not lost till the passing of the Demand for Grants.

- Creation of a professional Finance & Accounts Cell at Regional level to help in proper budgeting, managing allocations, monitoring expenditure and facilitating audit. The Cell should be headed by a Director (Finance) who should be well versed in these matters and may be taken either on deputation from State/Central Organizations or from within GSI.
- Reworking of Budget head around the new Missions and 'Support System' activities being proposed by the Committee. The allocation to the Regions would be made by the Addl. D.G in-charge of the Wing in consultation with Addl. D.G/ DDG (Finance). The same principle would apply in respect of support activities. This would ensure accountability of the head of the Wing/Support System at the Central level. It would also make for smoother operation since communication channels for operation purposes would be between the Regional head and the head of the Wing/Support System.

9.8.4. The Committee is of the view that 'Projectisation' of activities recommended by earlier Committees is best implemented when GSI attains a statutory status, with a non-lapsing Fund and full flexibility in budgeting and financial management.

9.8.5 The manpower strength for this division is detailed in Table – IX.4.

Table – IX.4

Finance Stream Manpower Requirement

Stream	Group	Level (Designation)	Scale (As per V th CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %		
							DR	DPC	Requirement
1	2	3	4	5	6	7	8	9	10
Finance	Group A	Addl. Director General	Rs. 22,400 – 24,400	1**	1**	1**	-	-	Ex-cadre post by deputation from State/ Central Govt. organization in HAG grade or SAG grade for at least 5 yrs; with at least 10 yrs experience in planning & expenditure management.
		Director (Fin.)	Rs. 12,000 – 16,500	1	1	9***	-	8***posts ex-cadre. 1 post by promotion	Ex-cadre post by deputation from State/ Central Govt. organization in STS grade with

Stream	Group	Level (Designation)	Scale (As per V th CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %		
							DR	DPC	Requirement
1	2	3	4	5	6	7	8	9	10
									at least 5 yrs experience in planning & expenditure management.
									Promotion on completion of 5 yrs as Sr. Accts. Officer
		1. Sr.Accounts Officer	Rs.10,000 – 325 – 15,200	4	1	8\$		100%	Promotion on completion of 5 yrs as Sr. Accts. Officer
	Group B (Gaz.)	2. Jr Accts Officer	Rs. 8,000 – 13,500	13	4	15		100%	Promotion on completion of 7 yrs: as Cost Acctt. (as Accts.)
	Group B (Non- Gaz)	3. Accountant	Rs. 6500 – 10500	6	6	30*	100 %		
	Group C	Accountant	#Rs. 5000 – 8000	4	4				
TOTAL				29		63			

: Indicative. Actual percentage and other modalities may be worked in consultation with DoPT

\$: One each in Regions and two in Central Headquarter.

*: Graduation with Commerce/Accountancy with 3 years experience in supervisory capacity. Desirable: MBA from University, ICWA, etc]

#: Merged scales as accepted by Government on the 6th CPC Recommendation, Present Accountant to be accorded higher scale of Cost Accountant only if they have completed 5 yrs in present grade.

Re-designated by Committee: 1.Sr. Accounts Officer; 2. Jr. Accounts Officer; 3. Accountant

** : Presently in DDG scale upgradation recommended by the Committee

***: Recommended by the Committee

9.9.0. Personnel [Administration]:

9.9.1. In GSI, day-to-day management of personnel is done by Personnel Division which is responsible for formulation of Recruitment Rules, cadre reviews, personnel policy, etc whereas transfer and postings of Group-A&B is done by IR&HR Division..The Committee is of the view that this distinction has certain advantages; Personnel Division has in the past not been able to frame rules, conduct cadre review, etc. primarily because the head of the division was not a person with expertise in personnel matters, and interaction between GSI and the Ministry or Department of Personnel was also inadequate. The Committee accordingly recommends that DDG (Personnel) post should be filled by taking a person with adequate knowledge of personnel policies in Government. Personnel Division ought to be based in Delhi to ensure adequate interaction with the Ministry of Mines, Department of Personnel, UPSC, etc.

9.9.2. The Committee also feels that it is necessary to develop robust administrative systems from the Operation unit upwards to ensure proper management of personnel and related records. The Committee accordingly recommends that:

- At the State unit level, one of the Directors of GSI be designated as Director (Finance and Admn. Coord.) with a tenure of at least 2 years. There should be a Finance Cell and Admn. & Coordination Cell to provide staff support to the Director, headed by Finance Officer and Admn. Officer respectively.
- At the Regional level, given that planning, budgeting and expenditure functions are vested with the Addl. D.G. as HoD, a DDG should be designated as DDG (Finance, Adn. & Coord.), with two Director-level officers respectively for Finance and Adn. & Coord. who should be drawn from the respective cadre or taken on deputation.
- At Central Headquarters, the Dy. DG-in-charge of Personnel needs to be a person with adequate experience and accordingly as already provided these posts should be filled by deputation. The Dy. DG would be supported by Director-level officers, some of whom would be officers of the Finance & Administration Cadre while others would be taken on deputation.

9.9.3. The Committee is of the view that HR management in GSI has been neglected and is the root cause of many of its current problems. It is, therefore, recommended that matters relating to HRD be managed in headquarters through the Collegium of Addl. DGs at headquarters [see para 8.1.3 of Chapter VIII] who will provide domain knowledge-based inputs to the DDG (Personnel) and DDG (HR) and to the Addl. DG (Admn.) with reference to

- Cadre review proposals
- Recruitment rules
- General Posting and transfer below Addl. D.G. level
- Posting and transfer to North-East region
- Long-term training matters
- HR perspective planning linked with Science Policy

9.9.4. The Committee further recommends immediate implementation of the 'e-Service Book' Software developed by NIC for the Department of Personnel in order to computerize the service record of all personnel.

9.9.5. The manpower strength for administrative wing is given in Table – IX.5. The Committee feels that LDC and UDC posts may be frozen at existing level i.e. 375 and 475 respectively and progressively reduced to 263 and 332 at the rate of 3 percent per annum of the present sanctioned strength over next 10 years through natural attrition, with routine functions progressively outsourced to service providers at Wing and Region levels, along with progressive computerization including computerization of service records. In order to attract better-qualified persons, 50% of UDC posts may be filled by direct recruitment from 10+2 level, and 50% of Assistant posts may be filled by direct recruitment from Graduates.

9.9.6. Regarding the mode of induction in the Administrative streams, not many changes are envisaged – limited departmental competitive examination for promotion from LDC to UDC and UDC to Assistant and upwards and all entries restricted to Group-B and C which would ensure improvement in quality of input. Moreover, computer awareness may be considered as a desirable/ essential qualification for recruitment/career advancement. LDCs on successful completion of certificate course from recognized institute for Data Entry Operators and on passing departmental test in this regard may suitably be upgraded and renamed as Junior Clerk Cum Data Entry Operator.



Table – IX.5

Personnel Stream: Manpower Requirement

Stream	Group	Level (Designation)	Scale (As per V th CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %	
							DR	DPC
1	2	3	4	5	6	7	8	9
Personnel	Group-A	Addl. Director General	Rs. 22,400 – 24,400	-	-	1 [^]	Ex-cadre post by deputation from State/ Central Govt. organization in HAG grade or SAG grade for atleast 5 yrs; with atleast 10 yrs experience in planning & expenditure management.	
		Dy. Director General	Rs. 18,400 – 0 22,40	1	1	2 ^{^^}	Ex-cadre post (from All India Services/ Central Organized services) in same scale with adequate Experience in personnel matters.	
		Director (Adm. & Coord.)	Rs. 14,300 – 18,300	2	2	3 ^{^^^}	-	2 posts by DPC and 1 post ex- cadre (from CSS)
		Regional Admn Officer	Rs.12,000-375 – 16,500	6	3	6	-	100%
		Sr Admn Officer	Rs. 10,000 – 325 – 15,200	12	12	12	-	100%
		Admn Officer Gr-I	Rs. 8,000 – 13,500	28	21	28	-	100%
	Group B (Gaz)	Admn Officer Gr-II	Rs. 7450 – 11500	96	72	96 ^{**}	25%	75%[50% Deptt Exam]
	Group B (Non-Gaz)	#Supdt	Rs. 5500 – 9000	150	148	150	-	100%[50% Deptt Exam]
	Group C	#Assistant	Rs. 5000 – 8000	400	408	400	-	100%[50% Deptt Exam]
		UDC	Rs. 4000 – 6000	500	472	475/332	-	50%[50% Deptt Exam]
LDC		Rs.3050 – 4590	550	362	375/263	85%	15%	

: Indicative. Actual percentage and other modalities may be worked in consultation with DoPT

*: Strength after Stabilizing to 332 UDC and 263 LDC

#: Scales merged based on recommendation of 6th CPC, to be suitably designated

^: Proposed by the Committee (ex-cadre post); ^^: proposed by the Committee (ex-cadre post); ^^: Proposed by the Committee (1 ex-cadre post)

*** The existing scale Rs. 6500 – 10,500/-

9.9.7. Stenography Stream

The present strength of Stenography stream is 331. This Committee is recommending an organizational restructuring and has suggested 15 HAG and 80 SAG level posts. Accordingly posts in Senior PS and PS level officials are needed and for the purpose upgradation is recommended, as per details proposed in Table – IX.6.

Table – IX.6

Stenography Stream Manpower Requirement

Stream	Group	Level (Designation)	Scale (As per V th CPC)	No. of sanctioned post	Filled Post	Requirement of posts as per this Report	Proposed Recruitment %	
							DR	DPC
1	2	3	4	5	6	7	8	9
Steno- graphy	Group-A Private Secretary	Principal	Rs.8000 – 13500	Nil	Nil	2		100%
	Group-B (Gaz.) Secretary	Senior Private	Rs.7500 – 12000	4	4	15		100%
	Private * Secretary		Rs.6500 – 10500	27	24	135		100%
	Group-B (Non-Gaz.)	P. A / Steno Gr I* #	Rs. 5500 – 9000	80	79			100%
	Group -C	Steno Gr. II@	Rs.5000 – 8000	110	105	100	25%	75%
	Steno Gr. -III\$	Rs.4000 – 6000	110	19	90	100%		
TOTAL				331		342		

: Indicative. Actual percentage and other modalities may be worked in consultation with DoPT

*: Merged scales as accepted by Government on the 6th CPC Recommendation, the new post will be designated as Private Secretary

#: Merger of present P.A/Steno Gr. I with Private Secretary only after completion of 5 yrs of service in the grade of P.A/ Steno Gr. I.

@: Redesignated as Steno Gr. I

\$: Redesignated as Steno Gr. II.

9.10.0. Legal & Grievance Cell

9.10.1. GSI's requirement of legal services is primarily in respect of service matters, due to cases filed in the Central Administrative Tribunal and High Court. Legal services are required for drafting/vetting of replies, making interim applications/replies, appeals etc., and also in deciding a course of action when there is the possibility of legal consequences. There is also a subsidiary requirement related to drawing up/vetting of contracts/agreements or issues relating to conditions of a contract. At present, at CHQ one officer has been made the Law Officer who pursues legal cases by hiring a reputed lawyer in the relevant court after getting clearance from the DDG (P) and from the Ministry. Similarly, at Regional headquarters, a senior officer is designated as nodal officer-(legal) who pursues legal cases pertaining to the Region.



9.10.2. The Committee recommends that:

- At GSI headquarters, legal services should be outsourced by keeping on full time retainer a legal practitioner (or firm) with good knowledge of service matters. Regional heads may also consult him directly on all matters requiring legal advice. The legal cell may work under the overall supervision of DDG (Personnel). For Group A&B cases the outsourcing may perhaps be both done in Delhi since close liaison with the Ministry will be required and for Group C&D the outsourcing may be done at Kolkata.
- There should be a small Grievances Cell directly under the Addl. D.G (Adm.) to receive and deal with service and other grievances of GSI officials. Similar cells may function under the Regional Addl. D. Gs.
- GSI Training Institute (and Regional Institutes) should regularly hold short-term courses on Service Law in order to acquaint the administrative officials of the legal principles involved as well as law and procedures relating to the Central Administrative Tribunal.

9.11.0. HRD:

9.11.1. Presently HRD is the function of International Relations and Human Resource (IR-HR) Division attached with CHQ. The major activities of the Division include identification of domain expertise available within the Department and ensuring its optimum utilization by suitable postings and transfers HRD also selects and nominates officers for attending workshops, seminars and symposia. Coordination of GSI Training Institute activities and implementation of suggestions of Training Advisory Committee are also taken up by HRD.

9.11.2. The Committee on consideration of the activities of the HR Division, feel that separation of 'HR' Division from Personnel Division has its advantages and is accordingly of the view that the status quo in this regard may continue, with Personnel Division looking after long-term matters like Rules and cadre management, and HR looking after postings, transfers, promotions and training of personnel etc. The Committee would however recommend that the HR Division

- may delink itself from International Cooperation (which the Committee suggests should be part of the Operational Support System).
- should focus more on assessments and evaluation of training needs.
- must develop and implement transparent systems for postings and transfers, including in the North East States.
- needs to conduct regular studies on various aspects of HR development within the organization and ensure appropriate changes in the HR management system so that GSI as a workplace is perceived by aspirants and employees as being an organization that encourages research creativity and recognizes as well as rewards merit.

9.11.3. The Committee would however like to clarify that HR work cannot be left to the Division alone, but must be treated as part of management at every level. The Committee therefore recommends that major issues relating to training, posting and transfers and HR evaluation must be brought by the HR Division before the collegium of Addl. D.Gs for consideration and management action.

9.12.0. Information & Publication:

9.12.1. The Committee is of the view that the GSI has a non-transparent work culture, which prevents flow of information into the public domain, whether for policymaking, analysis, social or economic use or only for general information. As a result, public policies relating to geoscience in general and mineral exploration in particular have been adversely affected. Worse, geoscience is not perceived as being the absorbing and exciting subject it actually is. In countries such as the USA and UK, the Geological Surveys go out of their way to encourage interest in geoscience at school and University level. The BGS for instance has an outreach programme to improve public awareness of geoscience. BGS publishes the 'Earthwise' magazine aimed at the general public and organizes public events and activities for schools. The BGS website too is a treasure house of information accessed by a wide section of society, from geoscientists to children doing school project work.

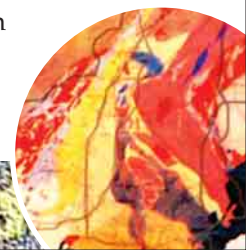
9.12.2. The Committee therefore recommends that GSI should recognize that there is a larger audience in India as well, which needs to be catered to, including political representatives, NGOs, researchers, etc. GSI in keeping with the provisions of the Charter recommended by the Committee has to be a provider of geoscientific information not only to geoscientists but also to all interested sections of the general public. At present, 'publications' is clubbed with 'mapping', on the premise that publications of GSI will only comprise technical reports and maps. It is necessary that 'publications' be separated from mapping, and a separate unit called 'Information & Publication' needs to be constituted as part of Sub-System - II which should be responsible for:

- Dissemination of reports and maps, and technical periodicals and all priced publications.
- Development and dissemination of other printed matter of a technical or semi-technical nature, both as a regular periodical and as an occasional publication for distribution
- Commissioning of audio-visual material on various geoscientific subjects including documentaries for broadcast, web-cast, etc. and for distribution on CDs/DVDs etc.
- Preparation on an ongoing basis, of audio-visual material for exhibitions at Central, Regional and State-level so as to present geoscience in general and GSI's work in particular at State level exhibitions and other fora.
- Organization, through the State units, of publicity campaigns on various geoscientific issues of public importance including natural hazards.

9.12.3. The Division would need to collaborate with the Administrative Ministry, CGPB constituents and other Stake Holders to enable conceptualization of Stake Holder requirements. The unit would have to liaise with the Geoinformatics Mission to ensure close coordination of the content of the two information delivery systems including the category of so-called 'Unpublished Reports and Maps', comprising a large component of information, which though not considered to be of sufficient widespread interest to necessitate printing of Reports, is nevertheless of possible interest to a wide variety of people and barring information classified as 'restricted' or 'secret' can be put on the public domain with metadata enabling easy access.

9.13.0. Libraries, Parks & Museums:

9.13.1. **Museums:** Like all leading Survey organizations, GSI has systemized and catalogued fossil, rock, mineral and meteorite collections. Over the course of the last 150 years specimens have been collected from all over India ('British India') and some of these valuable specimens are on display in



galleries of the Indian Museum and in the Central Headquarters of GSI. The Indian Museum has two important galleries – Siwalik and Mineral Galleries – in its premises, which are maintained by GSI. The Committee recommends that there should be a continuing process of collecting, cataloguing and displaying fossils, geological specimens and meteoritic rocks in order to maintain the interest in geoscience for the future generations. The Committee further recommends that GSI must create a National-level museum at a suitable place and 'State'-level museums in all States in collaboration with the State Governments, depicting the geological history and features of the State. In case the State Government already has a suitable museum, GSI can collaborate in enriching that Museum. In other States, GSI may take the lead to create the Museum and invite the State Government to similarly collaborate.

9.13.2. Libraries: The Central Library is situated in Kolkata since inception. All the geological publications, including those that are made available through mutual exchange with other libraries, universities and agencies, are stored in Central Library. The publications dated before 1940 have been segregated and stored as archives and are now available only as hard copies. A few memoirs have been reprinted lately and it is possible that the softcopy of these memoirs may be available with the Department. The regional/operation-unit libraries have been building up their libraries after these offices came into existence. The State-unit libraries are yet to be provided with interconnectivity with the Central library through networking. GSI needs to create an online modern Library System, comprising:

- Scanning and archiving of old document and maps
- Holding online documents and reports for which it has copyright or whose online availability is not prohibited
- Putting its scientific journals and publications on Internet
- Indexing, classifying and presenting an online database of all information held in the library.

9.13.3. GSI may create libraries at Regional level so that State-level information is available either on Internet or locally to the extent possible. GSI must also collaborate with State Governments in setting up a geoscientific library facility in the State Library at State headquarters and may create a Library for researchers and others at Regional headquarters.

9.13.4. In Central Library of GSI a single Static IP for the BSNL Broadband service exists to enable users to access the free online databases (Elsevier, Springer, Taylor & Francis, Blackwell, etc). GSI requires applying for 'Science Direct' online service. This service, once subscribed, must be provided to all the State offices with the commissioning of WAN resulting in accessing GSI databases of Central Library.

9.13.5. The Expert Committee fixed the manpower requirement for libraries in GSI at 150 personnel. This Committee recommends no major change in the strength suggested by Expert Committee in 2002, though it should be ensured that appropriate distribution be done immediately, however, the Committee recommends that the GSI improves its archival system by engaging consultants to recommend the best archiving and preservation techniques for its books and records so that they are not damaged due to inexpert and immature handling as may presently be the case.

9.13.6. Archives: In GSI Fossil collections and unpublished reports (of period prior to 1940) have been archived. The Central Fossil Repository of GSI is maintained by the Central Fossil Repository Unit (CFRU), GSI, CHQ, Kolkata. The repository fossils are unique in many respects and have accumulated to huge volumes over the last 150 years. These fossils have been procured through purchases, gifts and exchanges besides type fossils registration by many workers from GSI and Non-GSI Institutions. In all,

the fossil deposit accounts for more than 2.5 lakhs specimens. These fossils are kept in two huge Indian Museum galleries (Siwalik Gallery and Invertebrate Fossil Gallery) and available spaces in the 1st & 3rd floor of GSI, CHQ. The personnel of CFRU maintain all the displayed and stored fossil collections and look after the other related aspects e.g. security, periodical verification, labeling, cataloguing, creation of a digital database, etc. of the fossils of the two Indian Museum galleries including monitoring of the public visitors in the Indian Museum throughout the year inclusive of Saturdays, Sundays and holidays. CFRU in conformity with the commitment of GSI to disseminate scientific knowledge undertake preparation of fossil exhibits in different exhibitions organised by GSI; adding charts and notes about exhibits and on various geological events in the fossil galleries of Indian Museum; Imparting practical training on fossils and process of fossilization to the graduate and postgraduate students from different educational Institutions; Central Fossil Repository Unit (CFRU), offers fresh registration of fossils to the original authors, both for GSI and Non-GSI scientists / workers and allots type nos. which can be used by the authors for publications to the journals. The registered fossils are kept in the repository permanently. The registered repository fossils of the CFRU are open for study to the national and foreign scientists/workers on meeting certain criteria and conditions. The services of the CFRU, GSI are presently offered free of cost.

9.13.6.1. The Committee recommends that the GSI undertakes a review of its formal collection to further improve upon the system of registration and display, including online services and 'walk throughs'. Services of consultants may be taken to improve preservation and display facilities and the ambient environment.

9.14.0. Estates

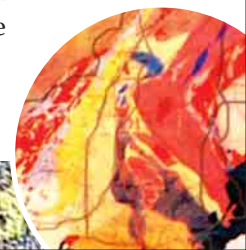
9.14.1. The land purchase procedures and construction of new buildings (i.e., immovable assets) are managed by the Superintending Engineer at the Central Headquarters who is taken on deputation from the CPWD. The possibility of getting personnel from CPWD is remote. The major constructions are in the form of administrative offices, laboratories and residential quarters for staff of various Regional offices and of the Training Institute. As per present practice the Administration Wing is in-charge of security, maintenance, etc.

9.14.2. The Committee is of the view that while construction projects need to be centrally planned and managed, routine activities like day-to-day management, general maintenance (preventive as well as minor works) and security need to be separated out for budgeting and administration purposes and delegated to the Regions concerned. Estate management has therefore to be a distinct activity managed from headquarters, with Estate management cells in each Region. In keeping with current practices in many institutions, in routine services, maintenance and security services will need to be outsourced, and the Cell's function will primarily be to manage outsourcing contracts.

9.15.0. SCIENCE SUPPORT SYSTEM

9.15.1. Science Policy & Coordination:

9.15.2. At present the planning, programming and monitoring functions are carried out by a Planning, Programming and Monitoring (PPM) Division attached with the CHQ. The Division not only formulates policy, but also ensures policy dissemination, linking and integrating the decisions of different committees. The Planning Division also looks after task force activities, budgetary (Plan) management and modernization. The Planning Division also interacts with the Planning Commission for Plan formulation and also for annual plan. The programming function is discharged through the



CGPB, SGPB etc, and advisory boards of allied organizations and formulation of the Field Season Programme. The Monitoring Division monitors the exploration activities for various minerals, mapping and specialized investigations, the norms and guidelines for field activities are set and periodic progress in specialized domains are monitored. Scrutiny of research projects emanating from various organizations under sponsorship of DST is also undertaken.

9.15.3 The Committee feels that in the present mechanism, formulation of long-term policy planning is not given due importance and the present mechanism only sets and manages goals for the short-term purposes. Therefore, the Committee recommends that the Division's activities be broken up into its component parts, comprising:

- Science policy (and coordination thereof with other geoscientific organizations)
- Mission-level planning and Monitoring
- Detailed programming for the field season based on CGPB and its committees and SGPB inputs

9.15.4. In addition 'International Cooperation' instead of being attached to 'Human Resource Development' as hitherto, would be attached to the Planning & Policy System to highlight its expected role in developing new science directions. Similarly, commercial operations would also be part of the System in the expectation that it would have significant international components. The Committee further recommends that the units comprising the Planning & Policy System be based in what was hitherto called the Liaison Office of GSI in Delhi since the activities are essentially related to the various Ministries of the Government of India and their institutions and Delhi is the centre of activity for the purpose.

9.15.5. The Committee suggests that the Science Policy Division's role may be:

- To identify critical areas in field of geoscience in short-, medium- and long-term periods and develop strategies to enable the challenge to be addressed.
- Work out priorities for GSI over the next 5, 10 and 20 years periods.
- Development and utilization of platforms of interaction/collaboration with other national and international organizations.
- To suggest changes, on continuous basis about infrastructural changes, skill mix and integrative approach to enable GSI to meet challenges.

9.16.0. Planning and Monitoring Division:

9.16.1. The Science Policy Division inputs needs to guide the Plan formulation by the Planning & Monitoring Division. The Planning Division needs to set out the annual programme clearly defining the objectives of the Missions during the plan period, physical parameters, timelines of various activities, the infrastructural/resource requirements, and clearly defined and measurable midterm and final outcomes of the project. Budget for the total project period and for annual budget periods over which project is envisaged.

9.16.2. The monitoring role of the Division will comprise monitoring implementation of annual programme, standardization of formats for reporting progress, suggesting mid-course corrections at Mission level if required and changes required in different parameters on which project was initially outlined. It will also be responsible for initiating follow-up action required for continuing the

programme and monitoring the quality assessment and report format of the project.

9.16.3. The Committee strongly urges that a Quality Management cell may be set up within the Division to devise quality management procedures, help conduct quality audit and facilitate obtaining quality certification for various processes. The Committee has not gone into the issue of the quality of the science being done by the GSI. However, given the nature of the difficulties faced by GSI in the recent past the Committee apprehends that it is likely that the quality of work has been affected, and feels that it is necessary to conduct a quality audit through an outsourced expert agency in order to identify critical shortcomings, provide a baseline and help to evolve procedures to rectify and present quality shortcomings. This will provide the necessary initial reports to the Quality Management cell.

9.16.4. CGPB Secretariat:

9.16.5. The Central Geological Programming Board (CGPB), as mentioned in Chapter – II, was established through Government of India Resolution dated 27th July, 1966. The CGPB was constituted primarily to co-ordinate activities on geological mapping and mineral prospecting, exploration and exploitation in the country, with the Geological Survey of India (GSI) as the nodal department and the State Geology and Mining departments and Central Government institutions as the participating members. Besides drawing up *inter se* priorities among various schemes of geological investigations and exploration for minerals in different parts of the country, the Board was also assigned the task of making broad recommendations on policy and HR development etc. in the geosciences sector. Subsequently, to complement the activities of the CGPB, State Geological Programming Boards (SGPB) were constituted in the States to co-ordinate geoscience activities within the State and to interface with the CGPB and GSI.

9.16.6. The geoscientific underpinnings of many natural and man-made processes are being appreciated to a much greater extent, and as such, the scope of the coordinating mechanism of CGPB has been broadened (vide Resolution of 12th March, 2009) to encompass:-

- Generation, management and integration of baseline geoscience data.
- Natural Resource Assessment, including minerals, fossil energy, and to some extent, ground water.
- Multidisciplinary geoscience, including geotechnical studies, natural, biological and chemical geohazards as well as fundamental geoscience.
- Geoinformatics, including data management, archiving and delivery with particular emphasis on spatial data and geographical information systems.
- Issues relating to sustainable development and climatic change and the geoscientific underpinning thereto.

9.16.7. The Committee is of the view that the SGPB – CGPB processes hold immense potential for planned geoscientific development:

- The CGPB enables coordination and cooperation between stake holders
- The CGPB sub-committees enable in-depth examination of programmes within the mandate of Govt. policies and evolving strategies.
- The SGPB – CGPB linkage enables State – Centre dialogue and coordination of activities for greater synergy.



- The CGPB mechanism can identify policy and implementation gaps and suggest capacity building measures to address emerging requirements.

9.16.8. The Committee is accordingly of the firm view that there should be a small but dedicated full-time secretariat for the Central Geological Programming Board at New Delhi and for each of the Committees in the respective Region, in order to fully realize the potential of this mechanism. This secretariat would also be responsible for generally organizing Conference and workshops for GSI as well as coordination and follow-up.

9.17.0. International Cooperation:

9.17.1. GSI has a number of bilateral collaboration programmes with other countries, including Canada, South Africa, Netherlands, China, Nepal and Bhutan. Bilateral cooperation with a number of African countries as well as Ukraine, Mongolia, Belarus and Argentina are on the anvil.

9.17.2. GSI also participates in many international programmes including International Geological Correlation Programme (IGCP), World Geological Map, Antarctic Studies, etc.

9.17.3. Because of fast-moving changes in the world geoscientific scenario, not only must GSI continue to enter into bilateral arrangements at project level, it must consciously look for partnerships that enable knowledge acquisition, skill and technology transfer. Such strategic arrangements will need to flow out of the Science Policy mechanism, crystallize into fruitful collaboration when these interfaces with the Mission-level plans and Field Season-level programmes. This requires the IC Division to be staffed by geoscientists with a forward-looking worldview, so that the Division can help guide GSI in the right direction for the future.

9.18.0. Commercial Operations:

9.18.1. GSI is currently fully funded out of the Budget which is available from revenues generated from tax payers. Commercial operations in the context of GSI have arisen in the following two contexts:

- Accredited activities: - GSI as part of its mandate is the generator of valuable products and services. The argument is that these products and services should be paid for at least when used for private profit as in the case of mineral investigation.
- Sponsored Work:- GSI does sponsored work for non-Governmental parties (or for other national Governments) outside its accredited mandate. This includes training programmes, geotechnical investigation, etc. These services need to be appropriately paid for as the budgetary approval of Parliament does not *suo-motu* cover such activities.

9.18.2. The Committee has considered these aspects as also the recommendations of the previous Committees in this regard. *Prima-facie*, the Committee is of the view that the GSI is an invaluable asset to the Government and nothing should be done that may cast any doubt on the credibility and impartiality of the organization and to this extent GSI's geoscientific expertise is of paramount value, not the commercial gain that may accrue as a result. The Committee is aware that leading nations in the Geoscientific arena such as the USA, Australia and Canada have consciously kept their Geological Survey outside the commercial sphere despite having a track record of running many of their organizations on business principles. The Committee is therefore of the considered view that an activity of GSI should be commercialized only if there are specific and convincing reasons. With reference to the possible contexts in which commercialization can be considered, the Committee is of the following view:

- Commercialization of an accredited activity:-
 - accredited activities are paid for by tax payer's money and to again sell the product or service generated militates against taxation principles. It may also be counterproductive to the general policy of attracting private sector investments. After all, general infrastructure created out from taxpayer's money, even if used for a profit-making venture like mining, is not charged (unless specifically mandated by Parliament) since it is seen as being part of the enabling environment for increasing economic activity. GSI's accredited activities are clearly in the form of 'information infrastructure', having general and multiple uses. In the USA, Australia and Canada in fact, because of the positive impact on economic and regulatory activity, it has in fact been realized that free geoscientific data availability actually contributes more to Government revenues than charging for it and restricting its availability.
- Sponsored work:- GSI is currently taking up sponsored work in respect of
 - coal etc.
 - geotechnical investigation for projects
 - training
 - In addition, it is possible that GSI may take up project work in other countries at the instance of the Government.

9.18.3. In case such activities are taken up using the infrastructure available because of Government funding it is appropriate that the revenues generated are deposited with the Government. However, it is possible – and perhaps necessary – that for certain activities, either manpower or material resources will need to be additionally procured and deployed for project purposes, and it is obviously preferable that such expenses are directly paid for out of project incomes and the 'Commercialization' aspect is clearly of importance. The Committee has considered the issue and is of the view that:

- in case GSI as an institution is covered by a Statute, enabling it to manage a non-lapsing Fund, Commercial operations will be fully facilitated in such circumstance,
- till such time as GSI attains statutory status, it is expedient for it to enter into MoUs with existing commercial organizations e.g. MECL etc. which would be the commercial front for the project. GSI's assets would need to be appropriately priced for their use in such projects. GSI's geoscientists required for project work would be deemed to be on deputation and would need to be appropriately compensated keeping in view the commercial nature of the enterprise.

The Committee recommends that GSI and the administrative Ministry follow up both options with full vigour. The Committee has made further detailed recommendations regarding charging for accredited activities in Chapter-XII 'Other Issues'.

9.19.0. Geoscience Partnerships: The Committee recognizes the importance of forging partnerships with Central institutions and State Governments for various schemes in geosciences, with universities and academic institutions for R & D and for outsourcing or under bilateral exchange of faculty and also MoUs with International geological surveys. In para 6.5 of Chapter-VI the philosophy behind forging such partnerships is mentioned.

9.20.0. Isolated Streams: For Vigilance, Printing Press, Legal cell etc a small number of posts are available in GSI as shown in Table – IX.7. The printing press is now obsolete and non-functional and

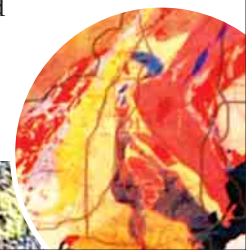


Table – IX.7

Miscellaneous and Isolated Streams Group A & B

Sl. No.	Particular	Present Sanctioned Strength	Revised Strength based on Varma Committee	Strength as on 01.11.2008.
GROUP A				
1.	S.E. Construction (Ex-Cadre)	1	1	Deputation Post
2.	Senior Librarian	1	1	
3.	Dy. Director (Official Language)	1	1	1
4.	Law Officer	1	1	Deputation Post
5.	Chief Vigilance Officer (OSD)	1	1	Deputation Post
6.	Investigating Officer	1	1	Deputation Post
7.	Manager (Printing)	1	0	
8.	Chief Artist	2	0	
9.	Asstt. Manager (Printing)	1	0	
	Total Group 'A'	10	6	
GROUP B				
1.	Librarian	5	5	
2.	Artist (Scribing)	1	1	0
5.	Artist (Sculpture)	1	0	
6.	Press Operator	1	1	0
7.	Assistant Publication Officer	1	1	1
8.	Junior Investigating Officer	2	2	0
9.	Hindi Officer	4	4	3
	Total Group B	15#	14+3^=17	
	Total Group 'A' + 'B'	25	23	

16 Officer Surveyors shown in Survey Stream ^: 3 Additional post of Hindi Officer Proposed

accordingly the Committee recommends abolition of the post of Asstt. Manager (Printing) and Press operator. However, in view of increased demand for having official documents bilingually the committee recommends additional 3 posts of Hindi Officer so that CHQ can be provided with two additional Hindi Officers and Delhi office can be provided with one Hindi Officer.

9.21.0. A large number of grades of Group C & D comprise Miscellaneous and Isolated streams. These streams related to printing, photography, photo processing etc., and as they had lost their relevance GSI has stopped recruitment to these streams. The Expert Committee in 2002 reviewed the situation and gave its recommendation based on which Ministry of Mines fixed the revised sanctioned strength for these cadres as shown in Table – IX.7. Similarly, based on the recommendation of Expert Committee the revised strength for Group 'D' cadre was refixed by the Ministry and the same is reflected in Table– IX.8.

9.21.1. The GSI in its presentation before the Committee proposed 167 posts of Miscellaneous Group C and also proposed for additional 930 Group D posts (comprising 650 Security Attendant and 280 Cosmetic Attendant).

9.21.2. The Committee is of the view that the services performed by the personnel of Miscellaneous and Isolated streams should be outsourced. However, outsourcing may not be feasible at one go because

Table – IX.8

**Manpower-Availability and Proposed Strength of
Miscellaneous & Isolated Streams 'C' & 'D'**

Sl. No.	Particular	Present Sanctioned Strength	Revised Strength based on Varma Committee	Strength as on 01.11.2008.
1	2	3	4	5
A Miscellaneous				
	STA (Photo)	12	00	10
	STA (Photo Process)	03	00	03
	Supdt. Printing	02	00	02
	Supdt. Pub.	04	00	03
	Head Scriber	01	00	00
	STA (Blasting)	05	00	04
	TA (Blasting)	03	00	01
	STA (Mining)	05	00	00
	STA (Geol-Sculp)	05	00	02
	JTA (Geol Sculp.)	06	00	04
	Geology Sculp Asstt.	01	00	01
	Electric Overseer	01	00	00
	Electrician	02	00	00
	Winding Engine Man	02	00	00
	Winch Driver Op.	01	00	00
	Com. Driver Mech	11	00	00
	Compounder	03	00	00
	JTA(Photo)	17	00	05
	Photographer	12	00	00
	Hd. Photo Process Engvr.	03	00	03
	Sr. Photo Process Engraver	08	00	08
	Photo Process Engraver Gr. I	12	00	07
	Photo Process Engr.Gr. II	11	00	00
	Chief Printer	02	00	02
	Printer Gr.I	07	00	07
	Printer	09	00	09
	Machine Man (Printing)	02	00	02
	Compositor	09	00	02
	Pressman	05	00	03
	TA(Pub)	12	00	07
	Proof Reader	11	00	07
	Copy Holder	02	00	02
	Binder(Sr.)	03	00	03
	Machine Optr. (Lib)	03	00	03
	Scriber(Sr)	02	00	02
	Scriber(Jr.)	04	00	00
	Plate Maker	02	00	02
	Graining Machine Operator	01	00	00
	Photo Type Setter	02	00	02
	Plate Keeper	01	00	00
	Prover	01	00	01



Sl. No.	Particular	Present Sanctioned Strength	Revised Strength based on Varma Committee	Strength as on 01.11.2008.
1	2	3	4	5
	Asstt. Press Op	02	00	02
	Retoucher	02	00	01
	Paper Cutting Op	01	00	00
	Foreman Carpentry	05	00	04
	Sr. Carpenter	34	00	25
	Carpenter	62	00	20
	Painter Polisher	18	00	05
	Total	332	00	164
B	Hindi			
	Hindi Translator (Sr.)	04	08	08
	Hindi Translator (Jr.)	23	32	06
	Total	27	40	14
C	Gestetner Operator and Care Takers			
	Gestetner Operator	62	00	39
	Care Taker (Ex-Cadre post)	10	00	-
	TOTAL	72	00	39
	GRAND TOTAL	431	40	217

Table – IX.9

**Present Strength/Revised Strength/Man
in Position in Group 'D' as on 1.11.2008.**

Sl. No.	Particular	Present Sanctioned Strength	Revised Strength based on Varma Committee	Strength as on 01.11.2008.
A	Technical Attendant			
	Technical Helper	436	1300	392
	Label Writer	70		36
	Mistry Painter	14		08
	TO(Blasting)	06		00
	Ink Man	01		00
	Carpentry Asstt.	18		05
	Cleaner	683		527
	Total	1228		968
B	Office Attendant			
	Messenger	860	700	450
	Binder	24		14
	Duftry	110		86
	Total	994		550
C	Security Attendant			
	Durwan	1153		610
	Total	1153		1160
D	Cosmetic Attendant			
	Safaiwala	276	000	213
	Mali	30		18
	Jamadar	56		51
	Total	362		282
	Total	3737		
E	Canteen	00		27
	Grand Total	3737	2000	2437