



**भारतीय सर्वेक्षण विभाग**

**SURVEY OF INDIA**

(विज्ञान एवं प्रौद्योगिकी विभाग)

(DEPARTMENT OF SCIENCE & TECHNOLOGY)

**वार्षिक रिपोर्ट**

**ANNUAL REPORT**

**2013 - 2014**

भारत के महासर्वेक्षक के आदेश से प्रकाशित

PUBLISHED BY THE ORDER OF THE SURVEYOR GENERAL OF INDIA

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## CHARTS

- Status of 1:25,000 Topo Maps
- Status of 1:50,000, 1:250,000 Topo Maps & 1:1 M IMW & WAC (ICAO)
- Locations of Survey of India offices

## **HIGHLIGHTS**

Survey of India, under the Department of Science & Technology, Govt. of India, has been engaged in production and maintenance of various types of Topographical, Geographical and many other public series maps on various scales covering India, for the defence and development of the nation. Besides, being grouped under 'Scientific Surveys' the Govt. of India business rule, it has also been called upon extensively to deploy its expertise in the field of geodetic and geophysical surveys, study of seismocity and seismotectonics, environmental and disaster management, participation in Indian scientific expeditions to Antarctica, glaciology programmes and other projects related to digital cartography and digital photogrammetry etc. to provide basic data for Science & Technology requirements. Highlights of activities during the year are as under :-

## **TOPOGRAPHICAL MAPPING STATUS**

Maps on the 1:250,000 and 1:50,000 scales covering the entire country have been published. Revision surveys for updating these maps are done at regular interval in phased manner.

Surveys on the scale of 1:25,000 is in progress on need basis. 10484 maps have been printed off till 31<sup>st</sup> March, 2014.

Survey of India has also taken up the tasks of producing new series of maps (Open Series Maps & Defence Series Maps) based on WGS-84 datum.

## **AERIAL PHOTOGRAPHY**

Whole of the country is covered with aerial photography. Special emulsion photography on various scales were undertaken as and when required. Now a days Digital aerial photography as well as LiDAR technology are being used in various projects.

## **DISTRICT PLANNING MAPS**

The status of District Planning Maps being published by Survey of India is as under:

Total Maps under the jurisdiction of Survey of India	...	256
Maps printed	...	255

## **POLITICAL MAP OF INDIA IN REGIONAL LANGUAGES**

Publication of the POLITICAL MAP OF INDIA in regional Indian languages is continued. Maps in Bengali, Gujarati, Kannad, Kashmiri, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu and Sanskrit have been published.

## **DIGITAL CARTOGRAPHY**

The digital techniques in cartography and use of Digital Cartographic Data Base (DCDB) for bringing out updated maps were initiated in SOI in early eighties. Maps on 1:250,000 scales covering the entire country have been digitized and updation of these maps is in progress. Digitization of 1:50,000 and 1:25,000 scale maps are in progress. 5060 sheets on 1:50,000 scale and 8779 sheets on 1:25,000 scale have been digitized till date.

## **INTERNATIONAL BOUNDARIES**

Strip surveys, demarcation and construction of boundary pillars on international boundary between India-Pakistan, India-Bangladesh, India-Bhutan, India -Nepal and India-Myanmar are continued.

## **GEODETIC AND GEOPHYSICAL SURVEYS**

Geodetic and allied geophysical surveys viz; upgradation and densification of geodetic plan and height control; densification and revision of gravity, geomagnetic, astronomical surveys; tidal measurements and prediction of tides for navigational activities; precise surveys for tunnel alignments, crustal movement and dam deformation studies, repetitive geodetic measurements and analysis of result for the study of seismocity and seismotectonic in earthquake prone areas were carried out in various parts of the country.

## **SURVEYS FOR DEVELOPMENTAL PROJECTS**

Large scale surveys and mapping on various scales for National Developmental Projects are continued/ undertaken.

## **TRAINING**

118 officers attended various courses while special courses are also conducted for 614 officers from various states and private personnel, at the Indian Institute of Surveying & Mapping, Hyderabad.

## **PRINTING**

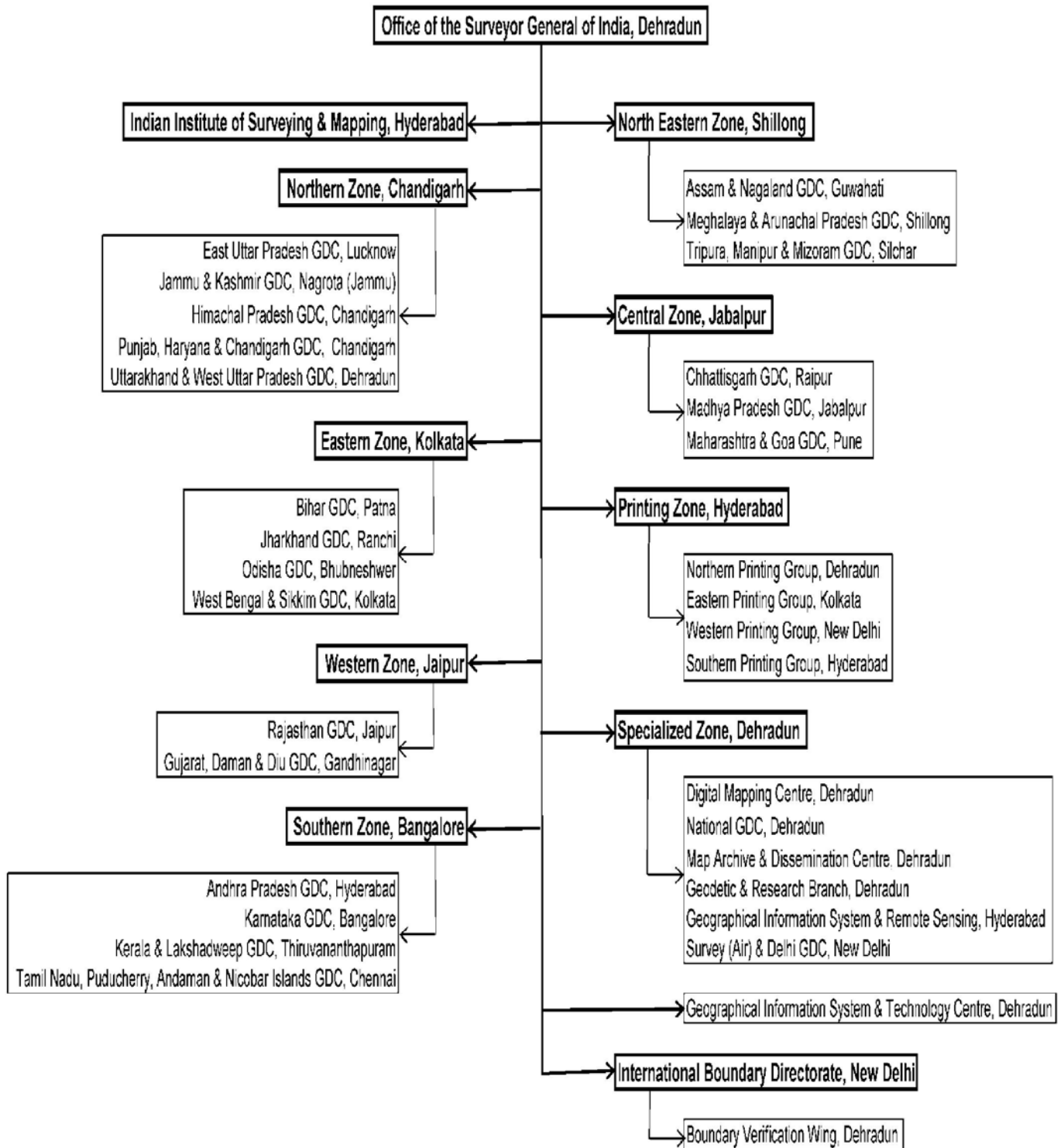
Printing of Topographical Maps, Geographical Maps, Special Purpose Maps, Project Maps, Tourist / Guide Maps and IAF Maps & Charts etc. is continued. 207 maps were printed during the year.

## **THE ORGANIZATION**

Survey of India has been reorganized w.e.f. 15-05-2009\* to meet the Spatial Data demands of Users in different states. Now Survey of India has its offices in almost all of the State Capitals of India named as Geo-spatial Data Centres. The Headquarter of Survey of India remains at Dehra Dun. The following chart depicts the entire structure of Survey of India.

Locations of various Surveys of India's Zones, Geo-spatial Data Centres, Special Directorates, and Printing Groups are as under :-

## Organization Chart of Survey of India



GDC - Geo-spatial Data Centre

\* SGO's No. W-340 / 709-GDC (Coll 7) dated 15-05-2009

## **THE CHARTER OF DUTIES**

The charter of duties and responsibilities of the Survey of India (SOI) are enumerated below :-

- (a) Provision and maintenance of geodetic plan and height control network and provision and maintenance of gravimetric and geomagnetic control network.
- (b) Provision of topographical cover in surveying and mapping for the entire country to meet the national requirements, including those of defence forces.
- (c) Collection of tidal data along the coast line and islands and Tidal predictions for 44 ports in the Indian Ocean, Arabian Sea and the Bay of Bengal including ports in Myanmar, Iran, Sri Lanka and Sultanate of Oman in the interest of good Neighborly relations.
- (d) Compilation/ mapping and production of geographical maps e. g. Railway Map, Road Map, Political Map, Physical Map etc.
- (e) Preparation of the International Map of the World (IMW) series and the World Aeronautical Charts (WAC) series as a commitment to the International Civil Aviation Organization (ICAO).
- (f) Surveys for development projects, e.g., power and irrigation, mineral exploration, urban and rural development etc.
- (g) Surveying and mapping of forest areas, large cities and preparation of guide maps of cities/ towns/ places of interest.
- (h) Surveying and mapping of Cantonments, surveying and mapping for aeronautical maps/ charts for the IAF.
- (i) Standardization of geographical names based on phonetics and participation in the international body set-up by the United Nations for this purpose.
- (j) Demarcation of the external boundary of India, its correct depiction on maps published within the country. Also advising the Government of India on the demarcation of inter-state boundaries.
- (k) Training of officers and staff of the department, trainees from other central and state government departments and trainees from foreign countries.
- (l) Promotion of Research & Developmental activities in the field of geodesy, photogrammetry, cartography and printing techniques etc.
- (m) Introduction of modern technology in the related fields and indigenization of equipment as an aid to import substitution. This includes development of instruments/ materials indigenously to increase self-reliance and reduce the drain on the foreign exchange reserves.
- (n) Co-ordination and control in providing aerial photographic cover for the whole country.

- (o) Collaboration with training organizations, educational institutions and scientific bodies on specific projects to promote research and developmental activities.
- (p) Representation at various international and national conferences to promote the growth of surveying and cartography and to introduce the state-of-the-art technology for optimum results.
- (q) Support to Third World countries e.g., Nigeria, Afghanistan, Kenya, Iraq, Nepal, Sri Lanka, Zimbabwe, Indonesia, Bhutan, Myanmar and Mauritius etc. by providing technical know-how and expertise in various disciplines of surveying and survey education.

Besides above activities, the Surveyor General of India is associated with the under mentioned Expert Groups/ Committees.

- i) Member of Executive Board of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP) under the auspice of the United Nations Regional Cartographic Congress (UNRCC).
- ii) Chairman of Standing Committee on Cartography and Mapping under NNRMS Programme, constituted by the Planning Commission.
- iii) Member of Management of Geological Survey of India.
- iv) Member of Governing Body of Wadia Institute of Himalayan Geology.

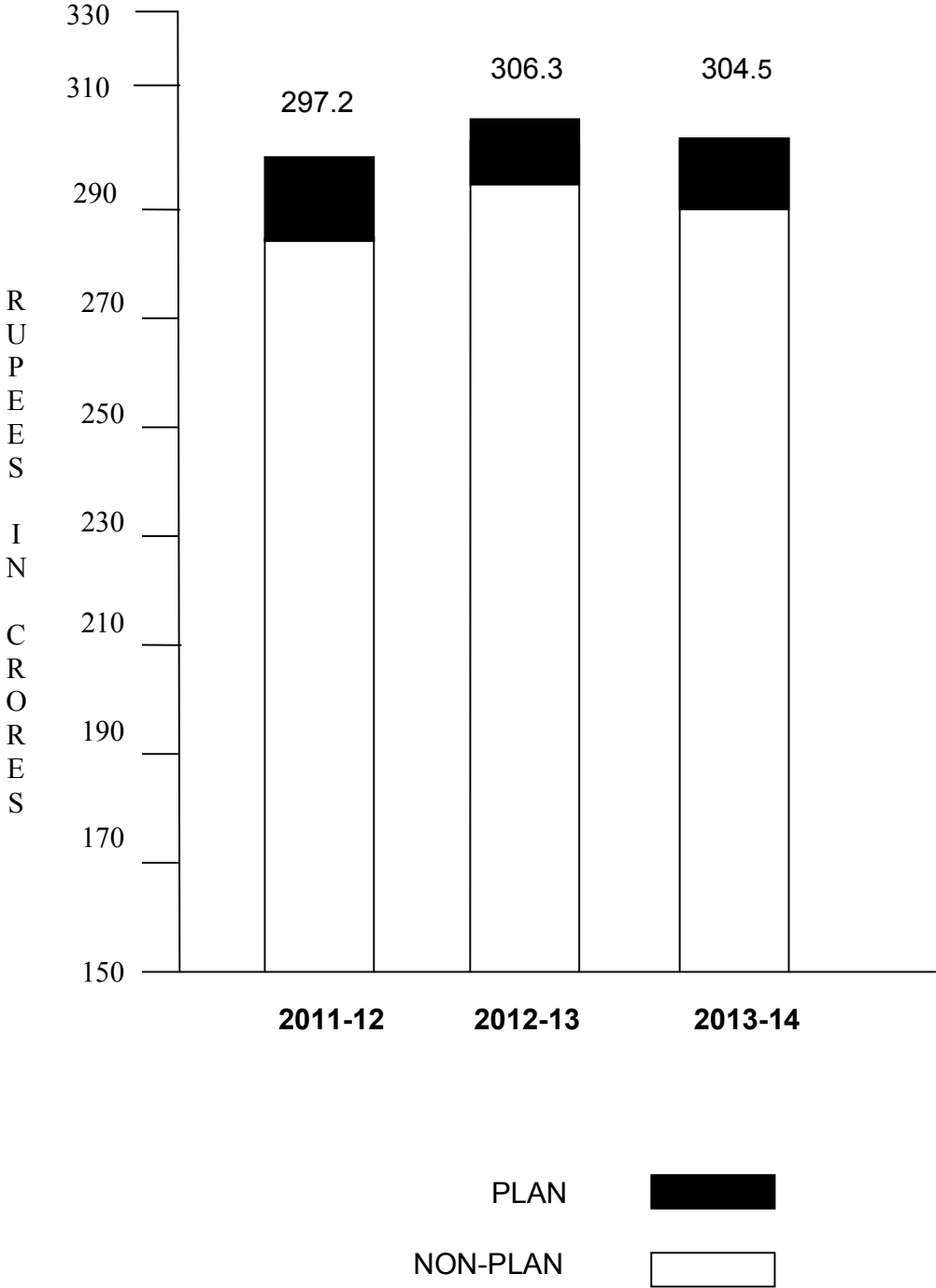
The Surveyor General of India acts as an adviser to various ministries of the Government of India on all surveying and cartographic matters. Survey of India also renders advice on the specifications of surveys and furnishes necessary data / maps to various central and state government departments for development, planning and defence applications.

**PERSONNEL**

As on 31.03.2014

Groups	Total
Group `A'	145
Group `B' Gaz	468
Group `B' Non Gaz	1265
Group `C' Div.II	965
Ministerial Estt.	729
Group `C' (Erstwhile Gp.`D')	2,120

**THE BUDGET**





## **THE ACTIVITIES**

The main activities of the department have been as under :-

### **GEODETTIC AND GEOPHYSICAL** **Geodetic Control**

The following tasks were carried out by the Department to provide the horizontal and vertical control for fixing alignment of various structures, Dam deformation studies, Crustal movement studies & Monitoring stability of National Heritage Monuments etc.

i)	GPS Observation for GCP Library	222 Stations
ii)	Triangulation	58 stations
iii)	High Precision Levelling for Redefinition of Indian Vertical datum	791 Lin km (Fore& Back)
iv)	Precision Levelling for Project Surveys	109 Lin km
v)	EDM Traverse	23 Lin km
vi)	Angular observation for projects	160 Stations
vii)	No. of bases for project surveys	112 bases
viii)	GPS observation for projects	185 Stations
ix)	Gravity observation	110 Stations

### **Gravity**

Two Automated Gravimeter (CG-5) were used for gravity observations on 55 stations along H.P. Levelling line in Uttarakhand and Uttar Pradesh.

### **Geomagnetic**

Automatic recording of variation of the three geomagnetic elements i.e. Horizontal Force (HF), Vertical Force (VF), Declination (D) and their absolute measurement were continued throughout the year with Digital Fluxgate Magnetometer (DFM), Askania and Lacour Variographs in order to control the baseline values at Geomagnetic Observatory Sabhawala. Data has been made available for scientific studies to other Govt. Departments also.

Geomagnetic observations were carried out at 15 stations to provide Horizontal Force (HF), Vertical Force (VF) and Declination (D) in the states of Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh and Uttarakhand has been completed .

### **Tidal Works**

Survey of India maintains a series of tidal observatories located all along Indian Coast and Islands. Tidal observations are carried out on regular basis for tidal predictions. Tidal data generated through tide gauges installed in tidal observatories is quality controlled and then used for upgradation of Harmonic constituents. These in tune are used for tidal predictions which are brought out in the form of Indian Tide Tables.

Aftermath Tsunami of 26<sup>th</sup> December 2004, Survey of India has contributed immensely in establishing Tsunami Early Warning System. Under the project “Modernization and Expansion of Indian Tide - Gauge Network” along east and west coast of India and its Islands and it was decided to equip all its tidal observatories with State- of- the- Art digital tide gauges and Dual frequency GPS receivers co-located with Real Time Data Transmission facilities through dedicated V-SAT network.

Tidal and GPS data received at National Tidal Data Centre / National GPS Data Centre in Real time through dedicated VSAT network is processed for ascertaining any signature of Tsunami or any impending disaster related with seismotectonic and crustal movement.

### **SPECIAL SURVEYS**

Planimetric and height control for tunnel alignments, crustal movement studies for the following developmental projects as listed below:

<b><u>State</u></b>	<b><u>Name of Special Survey</u></b>
<b>Andhra Pradesh</b>	Kolleru Lake Project ICZM Project
<b>Chhattisgarh</b>	CMPDI Project
<b>Gujarat</b>	ICZM Project
<b>Jharkhand</b>	CMPDI Project
<b>Karnataka</b>	ICZM Project
<b>Kerala</b>	ICZM Project
<b>Madhya Pradesh</b>	CMPDI Project
<b>Maharashtra</b>	CMPDI Project ICZM Project
<b>Meghalaya</b>	CMPDI Project
<b>Manipur</b>	Loktak Down Stream HE Project
<b>Orissa</b>	CMPDI Project
<b>Tamilnadu</b>	ICZM Project
<b>Uttar Pradesh</b>	Rihand Dam Project Hirakund Dam Project Indrapuri Reservoir Project
<b>Uttarakhand</b>	Tapovan Vishnugad HE Project
<b>West Bengal</b>	ICZM Project CMPDI Project

## AERIAL PHOTOGRAPHY

Aerial photography completed during the year in the various parts of the country has been as under:

Scale	Area covered
1:8,000	Nil
1:10,000	9946 Sq Km
1:15,000	245 Sq Km
1:20,000	2515 Sq Km
<b>Total</b>	<b>12,706 Sq Km</b>

## DIGITAL CARTOGRAPHY

The activities of National Geo-spatial Data Centre, Dehra Dun, GIS & Remote Sensing Directorate, Hyderabad, GIS Technology Centre, Surveyor General's Office (SGO), Dehra Dun and Digitization Cells under various Geo-Spatial Data Centre during the year are enumerated below :-

Digitization and Creation of Digital Cartographic Data Base (DCDB)

### Departmental

Digitization and creation of Cartographic Data Base on 1:250,000 scale have been completed and updation of these sheets is in progress.

Digitization and creation of Cartographic Data Base of OSM/DSM sheets on 1:50,000 scales have been completed as under :

### Progress of OSM Sheets

Total Sheets	DTDB updated	Submission of digital data for scrutiny		International Bdy. Coastal line verification		Patterning (F POP prep)			Final Printing				Remarks
		NGDC	GIS & RS	Submitted	Cleared	By GDC itself	By M/S Rolta	Total	English version		Hindi version		
									Submitted	Printed off	Submitted	Printed off	
5060	4792	2239	2545	633	401	1889	2703	4592	4411	1576	382	14	

## **Progress of DSM Sheets**

Total Sheets	Transformation	Patterning	Int.Bdy/ Coastal line Ver. Bdy by Bdy.Ver. Wing		ADGMS(GSGS)		Data archival in NGDC/ GIS & RS	Printing	
			Submitted	Cleared	Sheet Submitted	Blue indent issued		Submitted	Printed off
5060	4838	4787	517	468	4492	4317	4290	3546	263

Digitization and creation of Cartographic Data Base of 8,779 sheets on 1:25,000 scales has been completed.

## **PROGRESS OF IMPORTANT PROJECTS**

### **NUIS Project:**

Survey of India has undertaken the task of mapping of 152 towns on 1:2000 scales for core area and 1:10,000 scale for the peripheral areas under National Urban Information Scheme (NUIS), of Ministry of Urban Development.

### **1:10,000 Scale Survey**

Geo referenced Satellite Imagery of 152 towns have been sent to NRSC. Thematic mapping of all towns have been completed, Data of 150 towns have been sent to State Nodal Agency for Attribute collection and final product of 57 towns have been sent to State Nodal Agency.

### **1:2,000 Scale Surveys**

Ground Control for all 152 towns have been completed. 2D feature extraction of 147 towns has been completed so far. Ground survey of 4 towns, using total station has been completed. Data pertaining to 151 towns handed over to State Nodal Agency for attribute collection. Attribute data collection for 90 towns has been completed.

### **Mapping and Delineation of Hazard Line**

Due to increasing population, urbanization and accelerated developmental activities, the coastal environment has been assuming greater importance in recent years, The Ministry of Environment and Forest (MoEF) has initiated a project titled "India: Integrated Coastal Zone Management project (ICZM)". Survey of India has to generate a 0.5 metre elevation contour map on 1:10,000 scale as base map to delineate the Hazard Line for the entire mainland coast of India upto the maximum width of 7 Km from shore line on the landward side.

SOI contributed for the mammoth task for determining highest tide level for 100 year return period as a part of Integrated Coastal Zone Management (ICZM) project. Under this project 32 days tidal observations for densification of tidal observations alongwith their analysis has been completed.

### **Provision of primary GPS control points (GCPs)**

Construction of 182 pillars and GPS observation at 50 km & 10 km apart 335 & 1217 stations respectably completed.

DT Levelling lines :- 17253 lin km

ST Levelling lines :- 3895 lin km

### **Redefinition of Indian Vertical Datum:-**

A project of National importance on 'Redefinition of Indian Vertical Datum' 1<sup>st</sup> Phase has been completed and the work of 2<sup>nd</sup> Phase i.e. densification is to be taken up under which firstly Recce / Monumentation will be carried out and after the gap of one field season High Precision Levelling will be carried out. Recce of 1588 lin.km. have been completed. 413 lin km(Fore) and 378 lin km(Back) High Precision/precison levelling has been completed in the state of U.P. ,Uttrakhand, J&K and Punjab as a part of densification during the period under report.

Computation of Standard Error, Probable errors etc. for each levelling line its adjustment and computation of Geopotential Numbers for the entire level net observed under the project on 'Redefinition of Indian Vertical Datum'.

### **Modernisation and Expansion of Indian Tide Gauge Network Ocean and Island for Disaster Management**

"Modernisation and Expansion of Tide Gauge Network along Indian coast & Island" for Tsunami Warning System and Disaster management is continued. Modernisation of 30 Ports is completed out of 36 proposed under star Network. Real time data communication facilities have been established at National Tidal Data Centre, Dehradun as well as at several remote locations along Indian Coastline and Island. Tidal data received from the remote locations is being analysed in real time at National Tidal Data Centre, Dehradun. This data is also being shared with National Tsunami Warning Centre, INCOIS, Hyderabad.

### **GCP Library**

The project envisages setting of precise & consistent GCP Library in a Geocentric Coordinate system for the entire country. The Project will be completed in three phases, In the 1<sup>st</sup> phase, 300 1<sup>st</sup> order control points at spacing of 250 to 300 km. apart, covering the entire country has already been completed.

In phase- II Densification of first order network at a spacing of 25 to 30 km apart is under progress. Recce / Site selection of 2275 points, construction of 2261 pillars and GPS observation at 2224 stations has been completed so far. Processing of GPS data collected as a part of GCP Library phase-II is in progress.

### **Progress of GCP Library phase - II**

Total no. of GCP Pillars - 2267  
Recce - 2275  
Constructions of Pillars - 2261  
GPS observations - 2224

### **Coal Mine Project**

Preparation of updated Topographical maps of major Indian Coal fields based on remote sensing technique.

2D feature extraction of 518 sheets, 3D feature extraction of 98 sheets and photo / field verification of 274 sheets and 1274 sq km area has been completed.

### **Progress of Field Verification**

Scale	Total No. of Sheets	Sheets already verified		Total Sheets verified up to Date	Remarks
		Up to 31 <sup>st</sup> March 2013	During 2013-14		
1:50,000	5060	4909	Nil	4909	
1:25,000	19,393	781	4	785	

Scrutiny & Verification of Private Publishers / State Govt. / Central Govt. by Boundary Verification Wing:

Scrutiny = 1268 maps  
Certification = 1033 maps  
Released = 193 maps  
Boundary Description/ Verification = 104 maps  
IAF Maps = Nil maps

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**Total = 2598 maps**

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(a) Amount received from Forest Department = Nil  
(b) Amount received from State Government = `s 89200  
(c) Amount received from Central Government = ` 5,11,510  
(d) Amount received from Private Publishers = ` 8,77,390

**Total = ` 14,78,100/-**

### SALES OF MAPS & VALUE BY MRIO

SI No.	Description	No. of copies	Price
1	Defence	Nil	Nil
2	Central Govt.	12123	345170
3	State Govt.	2355	350499
4	Misc.	19677	1711362
	<b>Total</b>	<b>34155</b>	<b>24,07,031</b>
	Digital Data Supplied		1,68,67,300/-

### TOPOGRAPHICAL SURVEYS AND MAPPING

The details of topographical surveys and mapping on various scale have been as under :-

SI No.	Activity	Area (sq km) Distance (lin km)
1	<b><u>Control Surveys</u></b>	
	Topo Triangulation	Nil
	Traverse	130 lin km
	Levelling	2731 lin km
	Aerial Triangulation	Nil
2	<b><u>Detailed Surveys</u></b>	
	Digital Photogrammetric Surveys	Nil
	Ground Survey	755 sq km
	Verification	44 sheets
3	<b><u>Digitization</u></b>	
	Digital Mapping (DCDB for OSM) on 1:50,000	4,592 maps
	Digital Mapping (DCDB for DSM)	4,787 maps
4	<b><u>Printing</u></b>	
	Topographical & others	207 maps

## **INTERNATIONAL BOUNDARIES - CONFERENCES / MEETINGS**

### **India – Myanmar Boundary**

Sh. Naveen Tomar, Director, International Boundary Directorate (SGO), attended Inter- Ministerial meeting on boundary issued with Myanmar in Ministry of External Affairs, New Delhi on 02.07.2013.

Sh. Naveen Tomar, Director, International Boundary Directorate (SGO), attended meeting in MHA, New Delhi regarding boundary fencing & demarcation of border at Indo- Myanmar border at Moreh (Manipur) on 05.12.2013.

Dr. Swarna Subba Rao, Surveyor General of India attended meeting in MEA, New Delhi regarding India – Myanmar boundary on 03.01.2014.

Sh. Naveen Tomar, Director, International Boundary Directorate (SGO), attended meeting in MHA, New Delhi regarding Indo- Myanmar Border Management issue under the chairmanship of Home Secretary on 30.01.2014.

Sh. Naveen Tomar, Director, International Boundary Directorate (SGO), attended meeting with JS (IS-1), MHA, New Delhi to discuss the proposal made in issues related to violation of India's Mapping Laws by M/s Google using mapathon 2013 contest on 21.02.2014.

### **India – Bangladesh Boundary**

Sh. N.R. Biswal, Director, Settlement & Land Records (Ex. Officio) Tripura attended the 82<sup>nd</sup> Joint boundary conference of the Director of Land Records and Surveys (Ex officio), Tripura, India and the Director General of Land Records and Surveys, Bangladesh at Agartala from 22.08.2013 to 24.08.2013.

Sh. N.R. Biswal, Director, West Bengal and Sikkim GDC attended the 41<sup>st</sup> India – Bangladesh joint boundary conference (Mizoram sector) in Kolkata from 05.06.2013 to 07.06.2013.

Sh. N.R. Biswal, Director, West Bengal and Sikkim GDC attended the 169<sup>th</sup> joint Bangladesh conference on India-boundary (West Bangladesh sector at Comilla, Bangladesh from 16.09.2013 to 18.09.2013.

Sh. N.R. Biswal, Director, West Bengal and Sikkim GDC attended meeting under the chairmanship of secretary (DST) to discuss the issue vetting to the support to be extended by Survey of India(SOI) to MEA for Indo-Bangladesh boundary at Department of Science & Technology, New Delhi from 20.10.2013 to 22.10.2013.



### **India – Pakistan Boundary**

Shri Pankaj Mishra, Superintending Surveyor, Punjab, Haryana & Chandigarh GDC attended joint Surveyors/ Engineers meeting on 08.05.2013 to review the progress of joint relocation work along India-Pak boundary.

Shri Pankaj Mishra, Director(Current duty), Punjab, Haryana & Chandigarh GDC attended staff level officer meeting on 04.12.2013 regarding India- Pakistan Bi-Annual meeting at JCP Wagha.

Sh. A. Purnachandra, Superintending Surveyor, Rajasthan GDC, attended Officer Level Bi - annual meeting at JCP wagha (Pak side) on 14.12.2013.

### **India – Bhutan Boundary**

No activity has been taken place during this period

### **SCIENTIFIC ACTIVITIES**

Geodetic activities undertaken in Geodetic & Research Branch, Survey of India during the period under report includes the following major disciplines :-

Establishment of primary planimetric and height control for National Control Framework, its densification for mapping.

Geophysical surveys i.e. Gravimetric, Geomagnetic & Astronomical Surveys.

Retrieval and storage of GPS data being received from Indian Permanent GPS Stations maintained by Survey of India and other organization and its analysis .

Sea level observations to establish the mean sea level. These observations are required to establish the datum for height control and tide predictions used by port authorities for Navigational purposes.

Modernisation of Tide Gauge Network of India.

Provision of Geodetic & Geophysical control for developmental projects within the country and also in adjacent countries.

Geodetic studies for monitoring the crustal movement, dam deformation, checking of verticality of archaeological structures, earthquake studies etc.

National/International collaborative activities in the field of Geodesy and Geophysics.

Mapping of Antarctica (Maitri & Environs) region.

Research & Development Programme in Sea level studies, Glaciology, Earthquake prediction etc.

## **COLLABORATIVE SCIENTIFIC ACTIVITIES**

Following collaborative scientific activities in the field of Geodesy and Geophysics were continued:

Magnetic data has been supplied regularly to IIG, Mumbai and also supplied to World Data Centre whenever it required.

Supply of Mean Sea Level data of 18 Indian ports to International Permanent Service for Mean Sea Level (IPSMML), U.K. for various scientific studies by the International Geodetic Community.

## **RESEARCH AND DEVELOPMENT**

The main thrust of the research and developmental activities of the Geodetic & Research Branch during the period under report has been focused towards:

Processing / analysis of pre & post Tsunami GPS data of Antarctica for crustal deformation & seismotectonic movement studies.

Backup and archival of data received from permanent GPS stations.

Downloading of precise ephemeris of IGS stations from web sites through internet.

Adjustment of Second Level Net in India (data compilation).

Data processing / analysis and tidal predictions for year 2013 and 2014.

As a sequel to above programs, the following activities were initiated / completed.

Data acquisition with Global Positioning System in static relative mode to obtain transformation parameters between the Everest Spheroid and WGS-84.

Gravity data acquired for equal crustal movement studies across faults / thrust zones as well as for Geodetic and Geophysical studies for International Geodynamics projects is being restructured and formatted, so as to meet the requirements (of redesigned mathematical model).

## **PARTICIPATION IN INDIAN SCIENTIFIC EXPEDITION TO ANTARCTICA**

Two teams 'A' and 'B' from Survey of India under the XXXIII<sup>rd</sup> Indian Scientific Expedition to Antarctica visited in Antarctica. Team 'A' constructed 9 GCPs for neo-tectonic movement study of the region. Two weeks GPS observations has also been carried out at Bharti station for study of Intercontinental plates movement. Large scale mapping in 1:2,000 with C.I. 2 metre covering an area of 0.45 sq km including 19 traverse stations were carried out at Larsemann Hills Region. Team B surveyed 7.40 sq km on scale 1:10,000 with C.I. 5 metre in Schirmacher Oasis including 13 traverse stations.

## **PRINTING**

The following maps were printed during the year:

<b>Maps</b>		<b>Nos.</b>
1:25,000 (Reprint)	...	Nil
1:50,000 (Final & Reprint)	...	31
1:250,000 (Reprint)	...	18
IAF(PGM, OGM, OLM, LAC etc.)	...	06
State, Guide, Geographical, Railways & Tourists Maps etc.	...	36

## **SPECIAL PURPOSE MAPS**

The following special purpose maps were also printed during the year :-

<b>Maps</b>		<b>Nos.</b>
District Planning Maps	...	Nil
Project Maps	...	Nil
Miscellaneous Maps/ Indices / Charts etc.	...	187

## **MAP SALES**

Maps, Digital data supplied/ sold to the Ministry of Defence, Central and State Governments and other users' agencies.

## **TRAINING**

118 trainees including 15 extra-departmental & 10 private candidates are undergoing training in various courses run by Indian Institute of Surveying & Mapping, Hyderabad as per details given in Appendix 'A'.

## **PUBLICATIONS**

The following publications were brought out during the period under report :-

Indian Tide Table 2014

Hugli River Tide Table 2014

Annual Magnetic Bulletin 2011 of Sabhawala Observatory have been supplied to IIG Mumbai for publication.

Magnetic Bulletin 2012 is in progress.

Magnetic Declination Chart epoch 2015.0 is under progress.

## **CONFERENCES / SEMINARS / MEETINGS**

Dr. Swarna Subba Rao, Surveyor General of India attended meeting of Department related Parliamentary Standing Committee on Science & Technology, Environment & Forest on 16.04.2013 at New Delhi.

Sh. M. I. Malik, Director, S(Air) & D GDC attended a meeting on 29.04.2013 regarding constitution of expert group to review the preparation of upgraded earthquake hazard map of India at NDMA Bhawan, New Delhi.

Maj Gen R.C.Padhi, Addl. Surveyor General, SGO, attended FICCI conference at New Delhi on 03.06.2013.

Maj Gen R.C.Padhi, Addl. Surveyor General and Sh. D.N. Pathak, Superintending Surveyor, SGO, attended Standing Committee Meeting on Rural Development in DoLR, New Delhi on 04.06.2013.

A meeting was held from 10.06.2013 to 12.06.2013 for “**Web Map Service**” at IISM, Hyderabad in which Sh. P.S Acharya, scientist ‘F’ DST, Sh. Pankaj Mishra, Superintending Surveyor Punjab Haryana & Chandigarh GDC and Sh.R.N.Nanda, Superintending Surveyor, IISM had participated.

**Geo intelligence India - 2013 conference** cum exhibition was held at Hotel Taj Palace, New Delhi from 13.06.2013 to 14.06.2013. Dr. Swarna Subba Rao, Surveyor General of India, Maj Gen Anil Kumar, Addl. Surveyor General, SGO alongwith senior officers from SOI attended the conference.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO, attended DST-NSDI LiDAR Standards Meeting and also held discussion with Joint Secretary in DST, New Delhi on 28.06.2013.

Sh. U.N. Mishra, Director, G&RB, attended a meeting of National Committee on Seismic Design Parameter at Central Water Commission, Sewa Bhawan, New Delhi on 28.06.2013.

Maj Gen R.C.Padhi, Addl. Surveyor General, SGO, attended meeting in DST, New Delhi on 12.08.2013 regarding Indo- Thai project.

Sh. U.N. Mishra, Director, G&RB, attended 2<sup>nd</sup> meeting of Project Management Council of Ocean Observation System (OOS), SIBER and GEOTRACES at Ministry of Earth Sciences, New Delhi on 13.08.2013.

Smt. Bindu Manghat, Superintending Surveyor, S(Air) & D GDC attended the meeting on Expenditure Finance Committee (EFC) meeting for “Flood Forecasting” during the 12<sup>th</sup> Plan held at Sewa Bhawan, New Delhi on 26.08.2013.

Officers from DST and SOI participated in a “**National Data Registry Workshop**” which was held at IISM, Hyderabad from 02.09.2013 to 04.09.2013. Maj Gen R.C.Padhi, Addl S.G. and NDR coordinator welcomed the Guests & participants, Maj Gen(Dr.) R. Shiva Kumar, CEO NSDI, made a opening remarks. Dr. Swarna Subba Rao, Surveyor General of India inaugurated the workshop and Dr.V.K.Dadwal, Director, NRSE delivered the key note address.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO, attended High Power Steering Committee meeting in DST, New Delhi on 04.09.2013.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO attending 1<sup>st</sup> meeting of the Expert Committee on “Map the Neighborhood in Uttarakhand (MANU)” in DST, New Delhi on 13.09.2013.

**XXXIII<sup>rd</sup> INCA congress** was being organized by Indian National Cartographic Association and hosted by National Remote Sensing Centre (NRSC), ISRO and Central Arid Zone Research Institute at Jodhpur during 19.09.2013 to 21.09.2013. Geospatial products, maps, Charts, Globes and models etc. were displayed at the conference. Dr. Swarna Subba Rao, Surveyor General of India alongwith senior officers of the department attended the conference.

Dr. Swarna Subba Rao, Surveyor General of India attended meeting on launch of '777 days of incredible Indian Himalayas' campaign of Ministry of Tourism at New Delhi on 27.09.2013.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO attended Pre bid meeting for Uttarakhand Disaster Mapping Project at Hyderabad on 18.10.2013

Dr. Swarna Subba Rao, Surveyor General of India attended meeting with Sh. S. Sathyanarayana, Hon'ble MP alongwith JS (Adm) DBT regarding construction by CDFD at Uppal, Hyderabad on 30.10.2013.

Dr. Swarna Subba Rao, Surveyor General of India attended meeting with Additional Solicitor General on 16.11.2013 at New Delhi.

Smt. Jaspal Kaur Pradyot, Director, Adm.& Finance, SGO, attended meeting with JS(Admn.) FA and CoA on Budgetary matters at New Delhi from 18.11.2013 to 19.11.2013.

Dr. Swarna Subba Rao, Surveyor General of India attended "**Geo Build Infrastructure 2013**" conference on 19.11.2013 at New Delhi.

Sh. Chandra Pal, Director, Smt. Bindu Manghat, Superintending Surveyor & Sh. G.C. Nayak, Superintending Surveyor, S(Air) & D GDC attended the conference on 'Geobuild Infrastructure – Road, Transport & Highway held at New Delhi on 20.11.2013.

Sh. Rajiv Srivastava, Director, Odisha GDC attended the meeting regarding change of existing seaward Artillery Prctice Range from Gopalpur port area in Bhubaneshwar held under the organization Govt. of Odisha Home Department on behalf of Survey of India on 28.11.2013.

Dr. Swarna Subba Rao, Surveyor General of India attended NSDI 2013 Annual Conference at Mumbai on 29.11.2013.

Dr. Swarna Subba Rao, Surveyor General of India participated in ESRI India User Conference at New Delhi on 11.12.2013.

Dr. Swarna Subba Rao, Surveyor General of India attended review meeting of DST, sponsored project "Geospatial Technologies; Restoration of Kolleru Lake Ecosystem" at Andhra University, Hyderabad from 07.01.2014 to 08.01.2014.

Dr. Swarna Subba Rao, Surveyor General of India attended "National conference on Sustainable Resources Management in Cauvery Basin, South Asia" on 25.01.2014 at Tiruchirappali.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO attended High Resolution Satellite Data Demand Assessment Meeting at New Delhi on 28.01.2014.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO attended Technical Committee Meeting on National Data Registry at NSDI, New Delhi on 30.01.2014.

Maj Gen Anil Kumar, Addl. Surveyor General, SGO attended meeting on “Establishing National Level Technical Umbrella for Urban Flood Processing and Warning” at NDMA, New Delhi on 05.02.2014.

“**India Geospatial Forum 2014**” the 16<sup>th</sup> Annual International Conference and Exhibition on Geospatial Information Technology & Application was being organized in Hyderabad during 05.02.2014 to 08.02.2014 with the theme “Conversing Geospatial Trade and Practices”. Maj Gen Anil Kumar, Addl. Surveyor General & Smt. Jaspal Kaur Pradyot, Director, Adm.& Finance, SGO, alongwith senior officers from SOI attended the conference.

Sh. Rajan Kumar Nigam, Deputy Surveyor General (HR), Surveyor General’s Office attended meeting with Joint Secretary (Adm.) at DST, New Delhi on 14.02.14.

Sh. U.N. Mishra, Director, G&RB, participated in meeting for Steering Committee for Generation of Foundation Geospatial Dataset for National Geospatial Information System(NGIS) project on 17.02.2014 at DST, New Delhi.

Dr. Swarna Subba Rao, Surveyor General of India attended workshop on “Application of Spatial Technologies in the Restoration of Wetland Ecosystem” at Andhra University, Hyderabad from 21.02.2014 to 22.02.2014.

Sh. G.C.Nayak, Superintending Surveyor, DSA & D GDC & Sh. Pradeep Singh, Deputy Superintending Surveyor, Punjab, Haryana & Chandigarh GDC attended the workshop on “**Right To Information Act 2005**” from 10.03.2014 to 11.03.2014 at Institute of Secretariat Training and Management, New Delhi.

Dr. Swarna Subba Rao, Surveyor General of India attended meeting in MHA regarding Interstate Boundary dispute between Karnataka & Andhra Pradesh from 24.03.2014 to 27.03.2014

Dr. Swarna Subba Rao, Surveyor General of India attended Inaugural function of ASCE International Conference at VIT University, Vellore on 14.03.2014.

### **TECHNICAL PAPERS**

Sh. P.K. Kar, Officer Surveyor APGDC, presented technical paper in XXXIII<sup>rd</sup> INCA International Congress, 2013 on “Disaster in Utrakhand – A Real Challenge to Mankind” which was organised by National Cartographic Association at Hyderabad.

Dr. M. Stalin, Director, Chattisgarh GDC presented a Technical paper in XXXIII<sup>rd</sup> INCA International Congress, 2013 organized by National Cartographic Association on “Accuracy Analysis of Urban Growth Model of Hyderabad city by Remote Sensing & GIS” at Hyderabad.

## **FOREIGN VISITS / STUDY TOURS / DEPUTATION**

Dr. Swarna Subba Rao, Surveyor General of India, Maj Gen R.C.Padhi, Addl. Surveyor General, Smt. Jaspal Kaur Pradyot, Director, Adm.& Finance, Sh. P.V.Rajasekhar, Director, Karnataka GDC and Sh. D.N.Pathak, Superintending Surveyor,SGO, visited Rotterdam, Netherland from 13.05.2013 to 16.05.2013 to attend Geospatial World Form 2013.

Sh. Naveen Tomar, Director,International Boundary Directorate (SGO), visited Bagan (Myanmar) to attend 20<sup>th</sup> Sectoral Level Meeting between India and Myanmar from 19.06.2013 to 20.06.2013.

Dr. Swarna Subba Rao, Surveyor General of India visited Melbourne, Australia to attend “2013 Victorian Spatial Summit” from 09.09.2013 to 12.09.2013.

Dr. Swarna Subba Rao, Surveyor General of India visited London, United Kingdom to attend in the 20<sup>th</sup> meeting of the International Steering Committee for Global Mapping , Cambridge Conference -2013 and 3<sup>rd</sup> session of the United Nations Committee of Experts on Global Geospatial Information Management (UNGGIM) from 23.07.2013 to 26.07.2013.

Maj Gen R.C.Padhi, Addl. Surveyor General and Sh. T.P. Mallik, Superintending Surveyor, IISM, visited Thailand for finalization the Indo – Thai Project from 24.12.2013 to 27.12.2013.

## **VISIT TO SOI OFFICES**

### **Northern Printing Group, Dehra Dun**

20 Students of United College of Engineering Management, Allahabad.

180 students and 2 Faculty members of Graphic Era University, Dehradun.

35 students and 3 staff members of Department of Geography, Shri Baldev P.G. College, Varanasi.

30 Cadets and 2 masters of R. B. Sanya College, Dehra Dun Cantt.

60 students of BRMC College of Engineering & Technology, Bhiwani(Haryana)

144 students and 4 Teachers of Department of Geography, Banaras Hindu University, Varansi.

45 students and 4 Teachers of Delhi Public School, BHEL, Haridwar.

60 students of Civil Engineering Department, Mehar Chand Polytechnic College, Jallander.

17 students and 4 teachers of Department of Geography, Kannur University, Kerala.

### **National Geo-spatial Data Centre, Dehra Dun**

A group of one hundred eighty students and two staff members of Graphic Era University, Dehra Dun.

Sixty students from Civil Engineering Department, BRCM college of Engineering and Technology, Bhiwani, Haryana.

A group of forty students of HOD, DIET, Shyampur, Rishikesh, Uttarakhand.

A batch of twenty students & Teachers of United College of Engineering Management, Allahabad, UP.

A group of fifteen students with one staff member of Doon School, Dehradun.

N. Sonazalian, IFS with thirty nine trainees of central Academy for State Forest Service, Dehradun.

A group of twenty two students & two staff members of TERI University, New Delhi.

### **CULTURAL AND EDUCATIONAL ACTIVITIES**

Hindi Pakhwada was celebrated at various offices in Survey of India located at different cities from 14.09.2013 to 30.09.2013 to encourage the officers and staff to work in “**Rajbhasha Hindi**”. Hindi essay writing, noting – drafting and quiz competition was also organized during this period.

### **NATIONAL SCIENCE DAY**

National Science Day was celebrated on 28-02-2014 at various offices of Survey of India located in different places of the country. The Theme on this National Science Day was “**Fostering Scientific Temper**”. The celebration included an exhibition highlighting techniques for map making, Digital mapping and modern Survey methods etc. Many visitors including engineering students from various colleges visited the exhibition and shown keen interest in the various exhibits and audiovisual displays about the history and the achievements of the department.



## DEVELOPMENT SURVEYS

The following project surveys were continued / carried out during the year 2013 – 2014 :-

<u>State</u>	<u>Name of Project</u>
<b>Andhra Pradesh</b>	Kolleru Lake Project ICZM Project NUIS Project INDIRA SAGAR POLAVARAM PROJECT GARLA FOREST SURVEY
<b>Bihar</b>	NUIS Project
<b>Chhattisgarh</b>	CMPDI Project NUIS Project
<b>Delhi</b>	Revision Survey of IAF Airfields Qutb Minar NSG Camp Survey
<b>Jammu &amp; Kashmir</b>	NUIS Project
<b>Jharkhand</b>	CMPDI Project NUIS Project
<b>Gujarat</b>	ICZM Project
<b>Himachal Pradesh</b>	H P & Punjab State Boundary NUIS Project
<b>Karnataka</b>	Nirmala Nagar Project KMRP Project ICZM Project
<b>Kerala</b>	NUIS Project ICZM Project
<b>Madhya Pradesh</b>	CMPDI Project NUIS Project
<b>Maharashtra</b>	CMPDI Project ICZM Project NUIS Project
<b>Meghalaya</b>	CMPDI Project

<b>Manipur</b>	Loktak Down Stream HE Project NUIS Project
<b>Orissa</b>	CMPDI Project
<b>Punjab</b>	NUIS Project Dappar Ammunition Depot Survey Teha Village Survey
<b>Rajsasthan</b>	NUIS Project
<b>Tamilnadu</b>	ICZM Project Survey of Tambaram(Chennai) Air Force Station
<b>Uttar Pradesh</b>	Indrapuri Reservoir Project Gobind Ballabh Pant Reservoir (Rihand Dam) Project Hirakund Dam Project NUIS Project
<b>Uttarakhand</b>	Mussoorie Forest Survey & Demarcation Mathura Cantt. Survey Tapovan Vishnugad HE Project
<b>West Bengal</b>	ICZM Project NUIS Project Turga (Puruliya) Pumped Storage Project BANDU (Puruliya) Pumped Storage Project CMPDI Project

**APPENDIX – “A”**

**COURSES RUN AND OFFICERS TRAINED REGULAR/ SCHEDULED COURSES**

SL NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	320.04	Dual Trade Course on Digitisation of Cartographic Document	--	02	--	--	02
2	340.46	Digitisation of Cartographic Documents	02	--	--	--	02
3	400.92 (A&B)#	Surveying Supervisor	15	--	--	--	15
4	440.21#	Digital Cartography & GIS Applications	07	01	--	--	08
5	440.22	Digital Cartography & GIS Applications	01	02	--	--	03
6	465.03	Mid Career Advance Course on GIS Applications	02	--	--	--	02
7	480.37	Digital Photogrammetry & Remote Sensing	05	02	--	01	08
8	480.38	Digital Photogrammetry & Remote Sensing	09	--	--	--	09
9	480.39	Digital Photogrammetry & Remote Sensing	11	--	--	--	11
10	480.40	Digital Photogrammetry & Remote Sensing	01	02	--	02	05
11	495.21	Fundamental of Survey Engineering	08	--	--	--	08
12	500.73#	Surveying Engineer	07	--	--	01	08
13	500.74#	Surveying Engineer	10	--	--	--	10
14	690.28	Control & Detail Survey by GPS & Total Station	02	03	--	03	08
15	690.29	Control & Detail Survey by GPS & Total Station	--	03	--	03	06
16	700.23#	Advanced Geodesy	04	--	--	--	04
17	710.30#	Advanced Photogrammetry & Remote Sensing	05	--	--	--	05
18	740.09#	Advanced Course on Digital Cartography & GIS	04	--	--	--	04
		<b>Total</b>	<b>93</b>	<b>15</b>	<b>--</b>	<b>10</b>	<b>118</b>

# Courses continuing from previous year.

**APPENDIX – “B”****SPECIAL COURSES FOR SPECIFIC USERS**

Sl. No.	COURSE No.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	Spl.#	Training in Modern Surveying Technology for National Institute of Defense Estate Management officers (NIDEM)	--	35	--	--	35
2	Spl.	Land Survey & Land Records keeping (Govt. of Manipur)	--	20	--	--	20
3	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	33	--	--	33
4	Spl.	Training in Remote Sensing & GPS (Andhra University students)	--	--	--	10	10
5	Spl.	Training in Application of GIS for Land use planning (Baptha Engineering College)	--	--	--	20	20
6	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	34	--	--	34
7	Spl.	Control & Detail Survey by GPS & Total Station and Map updation using Mobile Mapping system for officers of TCPO	--	06	--	--	06
8	Spl.	Training in Modern Surveying Technology for National Institute of Defence Estate Management officers (NIDEM)	--	28	--	--	28
9	Spl.	Training in Modern Surveying Technigues for ACE Engineering college (I-Batch)	--	--	--	43	43
10	Spl.	Training in Modern Surveying Technigues for ACE Engineering college (II-Batch)	--	--	--	45	45
11	Spl.	Training in Modern Surveying Technigues for Vasavi Engineering college (I-Batch)	--	--	--	38	38
12	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	33	--	--	33
13	Spl.	Training in Modern Surveying Technigues for Vasavi Engineering college (II-Batch)	--	--	--	39	39
14	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	26	--	--	26
15	Spl.	Land Survey & Land Records keeping (Govt. of Manipur)	--	19	--	--	19
16	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	25	--	--	25
17	Spl.	Modern Surveying Techniques for Power Grid officials.	--	23	--	01	24
18	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	25	--	--	25

19	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	22	--	--	22
20	Spl.	Training in Digital Cartography for Afghanistan officials.	--	--	08	--	08
21	Spl.	Training in ETS, Digitisation & Remote Sensing for Dy. Surveyors of AP SSLR Department.	--	17	--	--	17
22	Spl.	Use of GPS & Total Station & HRSI in Cadastral Survey.	--	18	--	--	18
23	Spl.	Global Positioning System & Electronic Total Station for THDC India Ltd.Rishikesh.	--	12	--	--	12
24	Spl.	Training in Modern Surveying Technology for National Institute of Defense Estate Management officers (NIDEM)	--	18	--	--	18
25	Spl.	Advance Map reading & GIS	--	05	--	--	05
26	Spl.	ETS,DGPS,Digitisation & Remote Sensing,Govt. of West Bengal	--	11	--	--	11
		<b>Total</b>	--	<b>410</b>	<b>08</b>	<b>196</b>	<b>614</b>

# Courses continuing from previous year.

**APPENDIX –“C”**

**SHORT TERM AWARENESS COURSES**

SL NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	-	GPS & Total Station concepts & application.	--	04	--	--	04
2	-	Datum, Coordinates system & Map projection – concept for Advanced Map user.	--	05	--	--	05
3	-	Training programme on Remote Sensing & GIS GPS and Total Station Applications for ESCI, Gachibowli, Hyderabad	--	06	--	--	06
4	-	Applications of Total Station and DGPS for projects for Engg.Staff college of India	--	11	--	--	11
		<b>Total</b>	--	<b>26</b>	--	--	<b>26</b>

**APPENDIX – “D”**

**ACADEMIC COURSES**

SL NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	Academic	M.Tech (Geomatics)- 2011-13 #	--	--	--	14	14
2	Academic	M.Tech (Geomatics)- 2012-14 #	--	--	--	16	16
3	Academic	M.Tech (Geomatics)- 2013-15	--	--	--	16	16
4	Academic	M.Sc (Geo-Spatial Science & Technology) – 2012-14 #	07	--	--	01	08
5	Academic	M.Sc (Geo-Spatial Science & Technology) – 2013-15	07	--	--	01	08
		<b>Total</b>	<b>14</b>	--	--	<b>48</b>	<b>62</b>

# Courses continuing from previous year.

## **USE OF HINDI IN OFFICIAL WORK**

In accordance with the Official Languages Rules, 1976, 15 Geo-Spatial Data Centres / Directorates / Printing groups including headquarter of Survey of India are located in Region 'A' while 6 Geo-Spatial Data Centres in Region 'B' and 20 Geo-Spatial Data Centres / Training Institute / Printing groups / Zonal Offices are in Region 'C'. The position regarding the use of Hindi in the department for the year 2013-2014 remained as under :-

### **Correspondence**

During the year 2013-2014 intensive measures were taken for transacting the official work of the union in Hindi by the various offices of the department. 4742 documents were issued bilingually under section 3(3) of the Official Languages Act, 1963. Letters received in Hindi were replied in Hindi. Region wise position regarding correspondence in Hindi remained as under :-

#### 1) Correspondence in Hindi by the offices located in Region 'A'

With 'A' and 'B' Region	–	80.5%
With 'C' Region	–	61.5%

#### 2) Correspondence in Hindi by the offices located in Region 'B'

With 'A' and 'B' Region	–	91.5%
With 'C' Region	–	78.2%

#### 3) Correspondence in Hindi by the offices located in Region 'C'

With 'A', 'B' and 'C' Region	–	41.5 %
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### **Training**

During the period under report 4 officers / employees passed Hindi Prabodh, Praveen and Pragya examination and 8 LDCs' passed Hindi Typing examination, under Hindi Teaching Scheme.

### **Hindi workshop / Seminar**

With a view to acquaint with the Official Language orders/rules and the target laid down in the Annual Programme Hindi workshops were organized in Surveyor General's office, Dehra Dun; Assam & Nagaland GDC, Guwahati. 74 officers/ employees received training in these workshops.

### **Incentive Scheme**

During the year 2013-2014 incentive schemes for noting and drafting for doing official work in Hindi, Hindi typing and Hindi stenography remained continued.

### **Hindi Day / Fortnight / Function**

During the year Hindi day / Hindi fortnight / Hindi functions were organized in the month of September in various offices of the Department. To encourage the use of Hindi various competitions pertaining to Hindi were organized on this occasion and the winners were awarded.

Chal Vijayanti Running Shield was given to the E-3 section for doing maximum work in Hindi in Surveyor General's Office, Dehra Dun. On this occasion prize distribution ceremony, Hindi Quiz Competition was also organized besides recitation of poems in Hindi.

### **Publication of in-house Magazine in Hindi**

The following offices published in-house magazines in Hindi during the period under report :-

1. Surveyor General's office, Dehra Dun	---	Sarvekshan Darpan
2. Uttarakhand & West Uttar Pradesh GDC, Dehra Dun	---	Prayas
3. Northern Zone, Chandigarh	---	Jagriti
4. Indian Institute of Surveying & Mapping ,Hyderabad	---	Pratibimb
5. Andhra Pradesh GDC, Hyderabad	---	Kalakal
6. Kerala & Lakshadweep GDC, Thiruvananthapuram	---	Sampreshan
7. Maharashtra & Goa GDC, Pune	---	Sahyadree
8. Assam & Nagaland GDC, Guwahati	---	Samvedna
9. Geodetic & Research Branch, Dehra Dun	---	Jhalak
10. Madhya Pradesh GDC, Jabalpur	---	Dharohar
11. Southern Printing Group, Hyderabad	---	Prerna
12. GIS&RS, Hyderabad	---	Pushpanjali
13. Gujarat, Daman & Diu GDC, Gandhinagar	---	Navyug

### **Meetings**

During the year 2013-14 quarterly meetings of the official Language Implementation Committee were held in almost all the GDCs and Directorates etc. of the Department located in Region 'A', 'B' and 'C'. In these meetings discussions were held to achieve the targets given in the Annual Programme issued by the Govt. for transacting the official work of the union in Hindi.

Half yearly meeting of the town official language implementation committee, Dehra Dun were also held under the chairmanship of Survey of India during the period.



**SCs, STs, OBCs & Persons with disabilities****SC/ST/OBC REPORT - I****ANNUAL STATEMENT SHOWING THE REPRESENTATION OF SC's, ST's AND OBC's AS ON 01-01-2014 AND NUMBER OF APPOINTMENTS MADE DURING THE PRECEDING CALENDAR YEAR- 2013****MINISTRY / DEPARTMENT / ATTACHED / SUBORDINATE OFFICE :- SURVEY OF INDIA**

Groups	Representation of SCs/STs/OBCs (As on 01-01-2014)				Number of appointments made during the calendar year 2013									
					By Direct Recruitment				By Promotion			By Deputation/Absorption		
	Total Number of Employees	SCs	STs	OBCs	Total	SCs	STs	OBCs	Total	SCs	STs	Total	SCs	STs
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Group A	139	9	6	5	-	-	-	-	-	-	-	-	-	-
Group B	551	79	56	16	-	-	-	-	34	4	-	-	-	-
Group C	2933	494	183	182	10	3	-	2	145	14	1	-	-	-
Group D (Excluding Sweepers)	2034	594	109	58	-	-	-	-	-	-	-	-	-	-
Group D (Sweepers)	84	79	03	2	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>5741</b>	<b>1255</b>	<b>357</b>	<b>263</b>	<b>10</b>	<b>3</b>	<b>-</b>	<b>2</b>	<b>179</b>	<b>18</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

**SC/ST/OBC REPORT - II****ANNUAL STATEMENT SHOWING THE REPRESENTATION OF SC's, ST's AND OBC's IN VARIOUS GROUP 'A' SERVICES AS ON FIRST JANUARY, 2014 AND NUMBER OF APPOINTMENTS MADE IN THE SERVICE IN VARIOUS GRADE IN THE PRECEDING CALENDAR YEAR – 2013****MINISTRY / DEPARTMENT / ATTACHED / SUBORDINATE OFFICE :- SURVEY OF INDIA SERVICE :-**

Pay Band & Grade Pay	Representation of SCs/STs/OBCs (As on 01-01-2014)				Number of appointments made during the calendar year 2013									
					By Direct Recruitment				By Promotion			By Other Method		
	Total Number of Employees	SCs	STs	OBCs	Total	SCs	STs	OBCs	Total	SCs	STs	Total	SCs	STs
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PB-3 ₹ 5400	22	2	3	1	-	-	-	-	-	-	-	-	-	-
PB-3 ₹ 6600	79	5	1	2	-	-	-	-	-	-	-	-	-	-
PB-3 ₹ 7600	4	-	1	-	-	-	-	-	-	-	-	-	-	-
PB-4 ₹ 8700	32	6	4	1	-	-	-	-	-	-	-	-	-	-
PB-4 ₹ 8900	1	-	-	-	-	-	-	-	-	-	-	-	-	-
PB-4 ₹ 10000	27	-	-	-	-	-	-	-	-	-	-	-	-	-
HAG & above	1	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>166</b>	<b>13</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**ANNUAL STATEMENT SHOWING THE REPRESENTATION OF THE  
PERSONS WITH DISABILITY IN SERVICES  
(As on 01-01-2014)**

**MINISTRY / DEPARTMENT :-** Ministry of Science & Technology  
**ATTACHED / SUBORDINATE OFFICE :-** Survey of India

GROUP	Number of Employees				
	Total	In Identified Posts	VH	HH	OH
1	2	3	4	5	6
Group A	139	-	-	-	-
Group B	551	3	-	-	3
Group C	2933	33	-	-	33
Group D	2118	-	-	-	-
Total	5741	36	0	0	36

Note: (I) VH Stands for Visually Handicapped (persons suffering from blindness or low vision)  
(II) HH Stands for Hearing Handicapped (persons suffering from hearing impairment)  
(III) OH stands for Orthopaedically Handicapped (persons suffering from locomotor disability or cerebral palsy)

**STATEMENT SHOWING THE NUMBER OF PERSONS WITH  
DISABILITIES APPOINTED DURING THE YEAR  
(FOR THE YEAR-2013)**

**MINISTRY / DEPARTMENT :-** Ministry of Science & Technology  
**ATTACHED / SUBORDINATE OFFICE :-** Survey of India

GROUP	DIRECT RECRUITMENT							PROMOTION						
	No. of vacancies reserved			No. of Appointments Made				No. of vacancies reserved			No. of Appointments Made			
	VH	HH	OH	Total	VH	HH	OH	VH	HH	OH	Total	VH	HH	OH
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
GROUP A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GROUP B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GROUP C	-	-	-	-	-	-	-	-	-	1	1	-	-	1
GROUP D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	1	1	-	-	1

Note: (I) VH Stands for Visually Handicapped (persons suffering from blindness or low vision)  
(II) HH Stands for Hearing Handicapped (persons suffering from hearing impairment)  
(III) OH stands for Orthopaedically Handicapped (persons suffering from locomotor disability or cerebral palsy).