

# **ANNUAL REPORT**

**2009 - 2010**

## **SURVEY OF INDIA**

**(DEPARTMENT OF SCIENCE AND TECHNOLOGY)**

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## **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.

A survey on the scale of 1:25,000 is in progress on need basis. 10457 maps have been printed off till 31<sup>st</sup> March, 2010.

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.

### **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	...	253
Maps under printing/ processing	...	03
Maps yet to be taken up	...	---

### **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. Map in Sindhi is under preparation.

## **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 5598 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-Myanmar and India-Nepal are continued.

## **GEODETTIC 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, crystal movement and dam deformation studies, repetitive geodetic measurements and analysis of result for the study of seism city and seism tectonic 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**

511 officers including 18 foreign nationals from Bhutan and 03 foreign nationals from Oman attended various courses at the Indian Institute of Surveying & Mapping, Hyderabad.

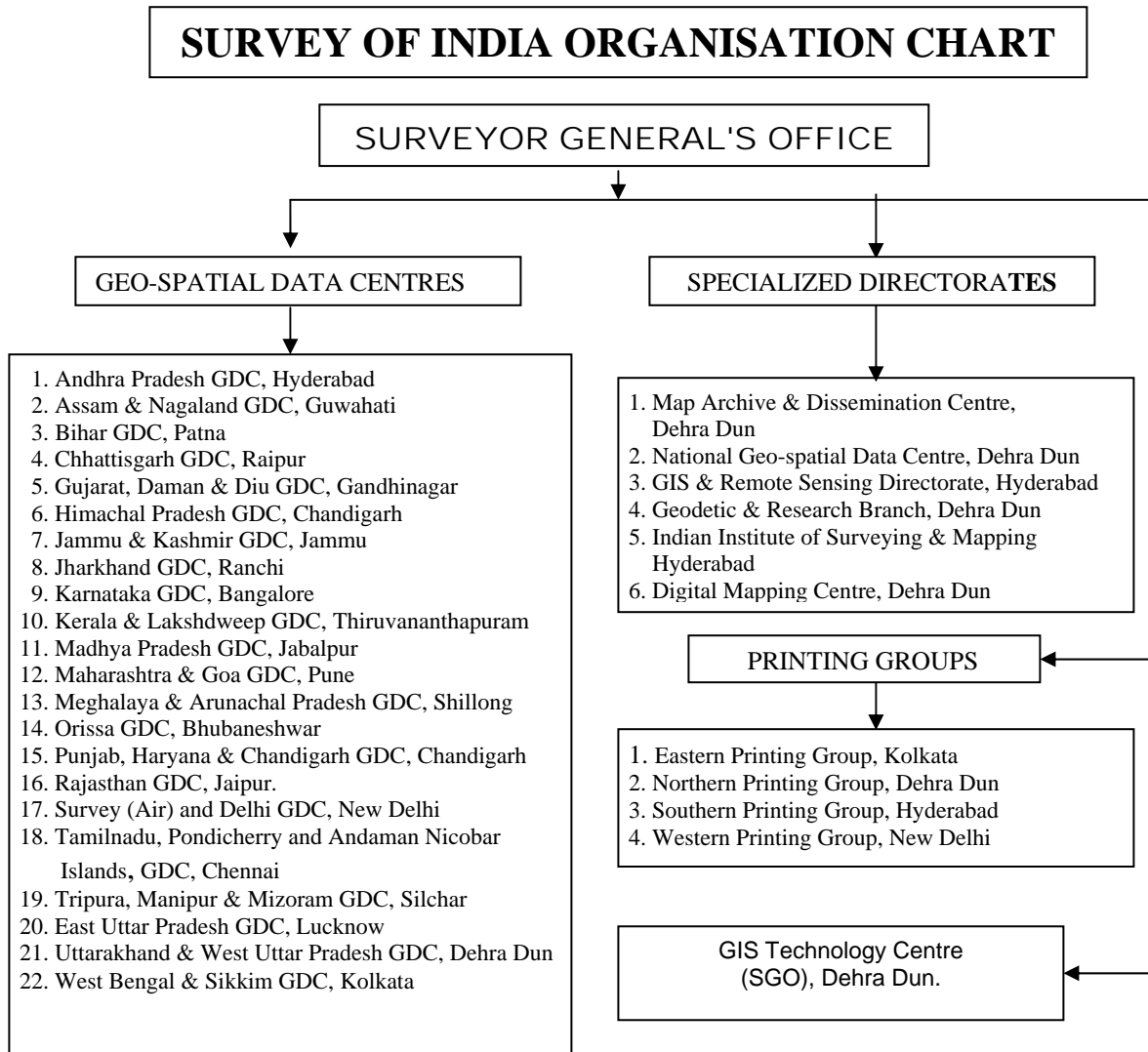
## **PRINTING**

Printing of Topographical Maps, Geographical Maps, Special Purpose Maps, Project Maps, Tourist / Guide Maps and IAF Maps & Charts etc. was continued. 1634 maps were printed during the year.

**THE ORGANISATION**

Survey of India has been restructured w.e.f. 01.01.2004 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 Headquarters of Survey of India remains at Dehra Dun . The following chart depicts the entire structure of Survey of India.

Locations of various Survey of India's GDCs, Special Directorates, and Printing Groups are as under:



## **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 Neighbourly 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.

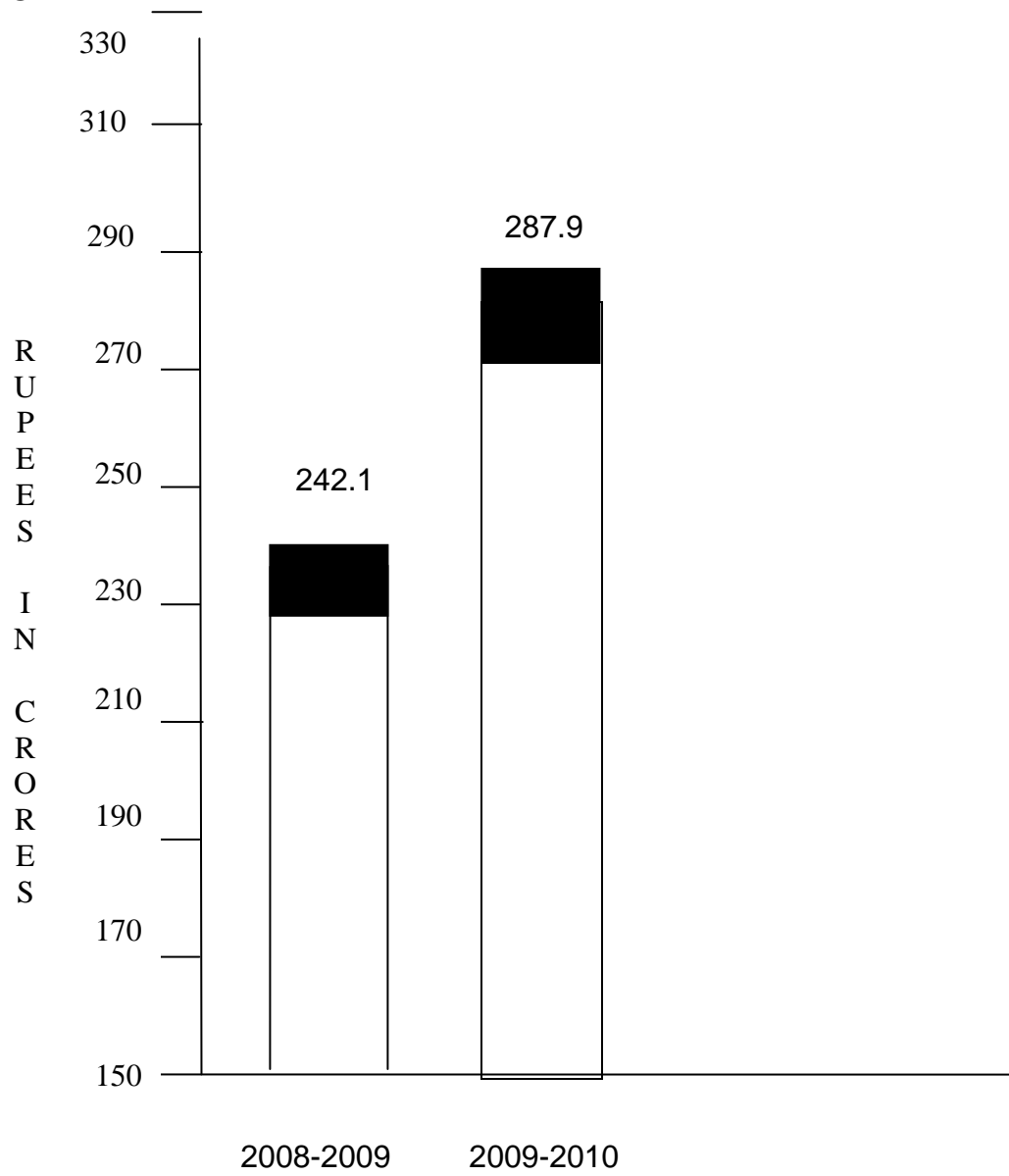
- i) Member of Executive Board of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP) under the auspice of the United Nations Regional Cartographic Congress (UNRCC).
- ii) Chairman of Standing Committee on Cartography and Mapping under NNRMS Programme, constituted by the Planning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


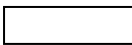
The Surveyor General of India acts as an adviser to various ministries of the Government of India on all surveying and cartographic matters. Survey of India Also renders advice on the specifications of surveys and furnishes necessary data / Maps to various central and state government departments for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

### **PERSONNEL**

Groups	Technical	Non-Technical	Total
Group `A'	180 (including Military Officers)	12	192
Group `B'	495	45	540
Group `C' Div.I	1,292	06	1,298
Group `C' Div.II	1,418	70	1,488
Ministerial Estt.	-	836	836
Group `D' Estt	-	2934	2934

# THE BUDGET



PLAN   
NON-PLAN 



## **THE ACTIVITIES**

The main activities of the department have been as under:

### **GEODETTIC AND GEOPHYSICAL**

#### **Geodetic Control**

The following tasks were carried out against the projected targets for densification of the geodetic & vertical control, adjustment of second level-net and providing precise plan metric & vertical control for various developmental projects:

a)	GPS Observations for GCP Library	41 420	Stations for Phase I Stations for Phase II
b)	High Precision Levelling for Redefinition of Indian Vertical datum	1858	Lin km
c)	Precision Levelling for Project Surveys	205.64	Lin km
d)	EDM Traverse	46.475	Lin km
e)	Gravity observation	967	Stations
f)	Geomagnetic repeat observations	–	Stations
g)	Maintenance / Inspection / Installation of Tide Gauges	34	Ports
H)	Secondary Levelling for Ports	85	Lin km (02 Ports)

#### **Geophysical**

Continuous Geomagnetic observations of Horizontal Force (H.F.), Vertical Force (V.F.), Declination (D) and their absolute Measurement in order to control the baseline values, throughout the year by Digital Magnetic Instrument installed in Digital Magnetic Observatory Sabhawala, Dehra Dun.

#### **Geomagnetic**

Geomagnetic observations were carried out no repeat stations to enter analyses Horizontal Force (HF), Vertical Force (VF) and declination (D) in Andhra Pradesh, Tamilnadu, Pondicherry, Kerala and Karnataka.

#### **Tidal Works**

Work on modernization and expansion of Indian tide gauge network along the Indian Coast and Islands.

Real time GPS and Tidal data transmission from remote locations through VSAT network as a part of modernization of Indian Tide Gauge network has been undertaken.

Installation and Maintenance of tidal gauges and data acquisition from the various tidal observatories located along the sea coast of India and offshore islands.

Tidal data processing, analysis and tidal predictions for the year 2009-2010 and its publication in the form of Indian Tide Table-2010 and Hugli River Tide table 2010.

### **SPECIAL SURVEYS**

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

#### **Andhra Pradesh:**

Sri Sailam Dam Project

#### **Arunachal Pradesh:**

Dibang Multipurpose Project

NUIS Project (Jowai Town- Core area)

Large Scale Mapping of Itanagar Project

#### **Bhutan:**

Punatsangchhu HE Project Stage II

#### **Delhi:**

Central Water Commission

Qutb Minar Project

#### **Gujarat:**

Kalpasar Project

#### **Himachal Pradesh:**

Koldam HE Project

Shong Karchhuam HE Project

Renuka Dam HE Project

Rampur HE Project

Uhal HE Project

#### **Karnataka:**

Nirmala Nagar Project

#### **Meghalaya:**

NUIS Project – Tura

#### **Manipur:**

RSTC Work for Fencing Project

#### **Punjab:**

Bhakra Dam HE Project

**Uttar Pradesh:**

Taj Mahal Agra Project  
 Indrapuri Reservoir HE Project

**Uttarakhand:**

Tapovan Vishnugad HE Project  
 Lohari-Nag-Pala HE Project

**AERIAL PHOTOGRAPHY**

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

Scale		Area	covered
1:6,000	.....	583	Sq Km
1:8,000	.....	170	Sq Km
1:10,000	.....	17,386	Sq Km
1:15,000	.....	36,666	Sq Km

**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 scales 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	Updated DTDB	Transformation	Submission of digital data For scrutiny			Data handed over to M/S Rolta for Patt	PATTERNING										Submitted for Printing	Printed Off
							Patterning by Rolta							Pattered by GDC	Total Pattered up to date			
			NGDC	GIS & RS	Accepted		Ist Proof	Received after Scrutiny	2 <sup>nd</sup> Proof sent to GDC	2 <sup>nd</sup> POP Received from GDC	FPOP Sent to GDC for approv.	FPI Received from GDC	Handed over for CYMK					
5060	4351	4259	1803	2428	2598	2342	2315	1994	1738	1408	1331	915	824	1226	2557	1398	997	

## **Progress of DSM Sheets:**

Total Sheets	Transformation	Patterning	Submitted to NPG for scrutiny		ADGMS(GSGS)		Printing	
			Total Up to date	Data accepted by NPG	Sheet Submitted	Blue indent issued	Submitted	Printed off
5060	3189	1816	1143	975	1058	841	512	262

Digitization and creation of Cartographic Data Base of 5,598 sheets on 1:25,000 scales has been completed.

## **Progress of Important Project:**

### **DSSDI Project:**

3D GIS Solution Including generation of large Scale base map for Government of National Capital Territory of Delhi (GNCTD) which has the following work schedule:

Extension of framework control, Aerial Triangulation, DEM and preparation of Orthophoto.

System design, data modelling, system integration and operations.

Primary data capture and creation of comprehensive LIS and UIS.

Generation of 3D Pictorial GIS for entire NCTD.

GPS control, Aerial Triangulation processing and delivery, Digital elevation Model processing and delivery, preparation of Ortho-Photo are completed for all 9 districts except restricted areas. Installation of monuments is completed for all 9 districts except Military and Para-military areas for which permission has not been obtained. GPS observations on 1350 monuments completed.

Installation, Testing, Integration and operationalisation of 2 main control centers, 1 Monitoring centre and 1 IP Camera has been completed. Delhi Geo Portal for DSSDI project is completed.

3D Feature extraction pertaining to 1424 sq.km has been completed (except restricted areas). Ground validation, over ground utility survey and creation of topographical database pertaining to 1424 sq. km has been completed. Property survey for property GIS 44,38,667 Nos. has been surveyed so far. Linking of property data with the buildings 23,40,867 Nos. has been completed so far. Utility Mapping (Underground) pertaining to 17038 lin.km. has been completed.

3D topology generation completed for all 9 districts (1424 sq.km.) except restricted area.

## **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 for the peripheral areas under National urban Information Scheme (NIUS), of Ministry of urban Development.

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

Provision of ground control points has been completed. Satellite imagery of 151 towns has been received and Geo- referenced Imagery of 130 towns was sent to NRSA for Thematic Mapping. Thematic Mapping of 74 towns has been completed. Security clearance of 46 towns has been obtained from GSGS and final product of 6 towns has been sent to State Nodal Agency.

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

Aerial Photography of 87 towns has been received and scanned. Field control points of 63 towns and 2D feature extraction of 14 towns have been completed so far.

Ground surveys by using total station for 5 towns were completed and Ground Survey of 2 towns is under progress. Security clearance of 1 town has been obtained from GSGS and data has been sent to State Nodal Agency's.

### **1:1,000 Scales (Utility Mapping):**

Firm has been identified for assignment of the job and supply order has been issued.

## **NIC Project:**

### **Computer Aided Digital Mapping:**

Digital Base Map (3D - GIS) for 3 cities, Mumbai, Chennai, and Ahmedabad on 1:1,000 scales.

Mumbai - Work has been completed and data has been supplied to NIC.

Chennai - Work has been completed and data has been supplied to NIC.

Ahmedabad - Work has been completed in all respect and final data has been supplied to NIC.

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

Scrutiny and proving is under way for entire 47,700 lin.km. (F/B). Total back leveling line 1858.11 lin.km. and 250 lin.km. Recree has been completed till March, 2010. Data comparison for different seasons on line Saharanpur to Devalsari and digitization of charts for densification of leveling network is under progress.

## **Modernization and Expansion of Indian Tide Gauge Network along Indian Ocean and Island for Disaster Management:**

Implementation of the project for "Modernization and Expansion of Tide Gauge network along Indian coast & Island" is continued. State of the art digital Tide Gauges co- located with GPS receivers and Real Time Communication Facilities through dedicated VASAT network, have been Commissioned at 25 Ports along East and West Coast of India and Islands for Commissioning Early Tsunami Warning System and Disaster management.

### **GCP Library:**

Creation of National Ground Control Points (GCP) Library for India, under Plan Scheme is continuing.

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 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 30 to 40 km apart is under progress. Recce / Site selection of 1774 points, construction of 1565 pillars GPS observation at 631 stations has been completed so far.

### **GIS based Mapping of Cities/towns (Census Project):**

Survey of India has taken up a project with Registrar General of India (RGI) for supply of large scale maps, generated from high resolution satellite imagery for 441 towns in phased manner. In the 1<sup>st</sup> phase the state capitals will be completed. These maps will be used for next census operation.

Survey of India has supplied high resolution satellite imageries of 22 capital cities to ORGI for drawing ward boundaries and collection of requisite information from field. Survey of India has also completed digitization of 700 ward maps so far.

### **Progress of GCP Library**

Total no. of GCP Pillars	-	2263
Recce	-	1774
Constructions of Pillars	-	1599
GPS observations	-	695

### **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.09	During 2009-10		
1:50,000	5060	4546	90	4636	
1:25,000	19,393	676	19	676	

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

Scrutiny = 1260 maps

Certification = 1439 maps

Released = 314 maps  
(Boundary -

Description) = 67 maps

IAF Maps = 02 maps

Forest Maps = Nil maps

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Total = 3082 maps

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(a)	Amount received from Forest Department	=	Nil
(b)	Amount received from State Government	=	Rs. 2,88,760
(c)	Amount received from Private Publishers	=	Rs. 17,12,260
(d)	Amount received from Central Government	=	Rs. 71,280

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Total		=	Rs. 20,72,300
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**Sales of Maps & Value by MRIW**

Description	Maps	Price
Defence	12,719	2, 16,223.00
Central Govt.	7,918	7, 36,247.00
State Govt.	11,628	5, 73,356.00
	<hr/> 32,265	<hr/> 15,25,826.00

Digital Data Supplied = Rs. 6, 94, 83,967.00

## **TOPOGRAPHICAL SURVEYS AND MAPPING:**

The details of topographical surveys and mapping have been as under:

SL	Activity	Scale	Area (sq km) Distance (lin km)
1.	Control Surveys		
	Topo Triangulation	-	Nil sq km
	Traverse	-	1,441 lin km
	Leveling	-	1,594 lin km
	Aerial Triangulation	-	Nil sq km
2.	Detailed Surveys		
	Digital Photogram metric Surveys (on various scales)	-	342 sq km
	Ground Survey (on various scales)	-67,	40,988 sq km
	Project Procedure Documents Data- - Modeling System		
	Verification Topo Sheet	-	240 sheets
3.	Fair Drawing		
	Digital Mapping (DCDB for OSM) on 1:50,000	-	2,557 maps
4.	Printing		
	Topographical & others (on various scales)	-	1634 maps

### **INTERNATIONAL BOUNDARIES**

#### **Conferences/ Meetings:**

#### **India – Nepal Boundary**

Maj. Gen. G.S. Chandela, Addl. Surveyor General, U.K. & WUP GDC along with Brig. Girish Kumar, Director, DSSDI Project attended the joint meeting for finalization of strip map of India – Nepal Boundary from 29-06-2009 to 02-07-2009 at Dehra Dun.



## **India – Myanmar Boundary**

Maj. Gen. S.K. Pathak, Addl. Survey General, International Boundary Directorate (SGO) attended the meeting in Ministry of Home Affairs, Border Management, North Block, New Delhi regarding RSTC work on Indo- Myanmar border on 27-04-2009.

## **India – Bhutan Boundary**

Indo- Bhutan Boundary meeting was held at New Delhi from 13 to 14<sup>th</sup> October 2009. Indian delegation was led by Maj. Gen. Manoj Tayal, Surveyor General of India.

Joint Technical Level meeting between India and Bhutan regarding boundary survey was held at Phuentsholing (Bhutan) from 10-03-2010 to 11-03-2010. India side was headed by Sh. P.K. Ganguly, Director, Meghalaya & Arunachal Pradesh GDC, Shillong.

## **India – Bangladesh Boundary**

Maj. Gen. S.K. Pathak, Addl. Surveyor General, International Boundary Directorate (SGO) attended India- Bangladesh DG Level Border Co-ordination Conference held in New Delhi from 30<sup>th</sup> March 2009 to 1<sup>st</sup> April, 2009.

Brig. R.N. Thakur, Director, WB & Sikkim GDC and Director, land Record and Surveys (Ex-officio) WB visited Bangladesh for joint field inspection of WB Sector in Kushtia / Jessore area (Bangladesh) from 23-05-2009 to 25-05-2009.

The 163<sup>rd</sup> Joint India- Bangladesh Conference for WB Section was held at Dhaka, Bangladesh from 18<sup>th</sup> to 20<sup>th</sup> August, 2009. Maj. Gen. R.N. Thakur, Addl. Surveyor General WB & Sikkim GDC Survey of India, Kolkata participated along with senior officers.

The 79<sup>th</sup> Joint India- Bangladesh Conference for Tripura was held at Dhaka from 21<sup>st</sup> to 22<sup>nd</sup> August, 2009. Maj. Gen. R.N. Thakur, Addl. Surveyor General, WB & Sikkim GDC, Survey of India, Kolkata and also the DS & LR (Ex-officio), WB, India and Director General, Land record & Surveys of Bangladesh participated along with senior officers.

The 38<sup>th</sup> Joint India—Bangladesh Conference for Mizoram Sector was held at Dhaka, Bangladesh from 23<sup>rd</sup> to 24<sup>th</sup> August, 2009. Maj. Gen. R.N. Thakur, Addl. Surveyor General, WB & Sikkim GDC, Survey of India, Kolkata and also the DS & LR (Ex-officio), WB, India and Director General, Land record & Surveys of Bangladesh participated along with senior officers.

## **India – Pakistan Boundary**

Sh. Iqbal Singh, Superintending, Surveyor, Punjab, Haryana & Chandigarh GDC attended India - Pakistan Surveyors/Engineers meeting held on 06-05-2009 at Joint Check post affair / waghera (India side).

Sh. Iqbal Singh, Superintending, Surveyor, Punjab, Haryana & Chandigarh GDC attended the meeting at JCP waghera Pakistan side on 20-05-2009 to sum up the progress of Joint India-Pakistan Survey/Construction work.

Sh. R.K.Nirvikar, Director, Punjab, Haryana & Chandigarh GDC attended the meeting with Div. Boundary Cell (SGO) New Delhi on 24-08-2009 Regarding Indo-Pakistan Boundary demarcation.

Sh. Pankaj Mishra, Superintending, Surveyor, Punjab, Haryana & Chandigarh GDC attended Staff level Indo-Pakistan Boundary meeting at JCP affair (India side) on 27-03-2010.

## **SCIENTIFIC ACTIVITIES**

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

Establishment of primary plan metric 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 recorded at thirty-three Permanent stations established at Almora, Aizawal (Mizo. Univ.), Bangalore (CMMACS), Bhatwari, Bhopal (R.R. L.AB), Bomdila (Tex. Uni.), Bhubaneshwar (SOI), Dehra Dun (SOI), (WIHG), Delhi, Dhanbad (WIHG), Guwahati (Univ.), Gangtok (GBPHED). Hanley (IIA), Imphal (Manipur Univ.), Jabalpur (GIS), Kanpur (IIT), Kothi (WIHG), Kodai Kanal (IIA), Leh (IAOH), Lucknow (GIS), Kukchung (NU), Munsiri (WIHG), Mumbai (IITB), Naddi (WIHG), Pananik (WIHG), Pithoragarh (WIHG), Pune, Shillong, Thiruvananthapuram (SOI), Tezpur (Tez. Univ.), Lumani (Tex. Univ.), Chitrakut (IIT Kanpur), maintained by SOI and other organizations.

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.

Modernization of Tide Gauge Network of India.

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

Central Store Maintenance Wing (CSMW) has the role of repair, production, calibration, quality control of surveying instruments. CSMW also undertakes the manufacturing of analogue survey pattern tide gauge as and when required.

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 was supplied regularly to IIG, Mumbai and also supplied to World Data Centre when ever required it.

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.

Field work and processing of data for transformation parameters between WGS-84 Datum and Everest Spheroid completed.

## **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 Andaman & Nicobar Islands for crustal deformation & tectonic movement studies.

Backup and archival of data received from permanent GPS stations.

Downloading of precise ephemerides 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 2008 and 2009.

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 for 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 officers were deputed for XXIX<sup>th</sup> Indian Scientific Expedition to Antarctica and carried out the following task:

Original P.T. Survey of Maitri and surrounding area on the scale 1:5,000 and 5 m C.I. At Schirmacher Oasis and New proposed station site in Larsemann Hill was carried out.

Seven days GPS observations in campaign mode was carried out at Larsemann Hill and Maitri stations to carried out plate movement studies of Antarctic plate with respect to Indian plate.

Assistance to other scientific teams participating in the expedition to help in perusing their scientific jobs through survey and allied work.

## **PRINTING**

The following maps were printed during the year:

<b>Maps.</b>			<b>Nos.</b>
1:25,000	...	...	282
1:50,000	...	...	760
1:250,000	...	...	18
Geographical Maps & Indices	...	...	03
Miscellaneous Maps / Indices/ Charts etc.	...	...	Nil

## **SPECIAL PURPOSE MAPS**

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

<b>Maps</b>		<b>Nos.</b>
District Planning Maps	...	01
Project Maps	...	49
Miscellaneous Maps/ Indices / Charts etc.	...	521

## **MAP SALES**

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

## **TRAINING**

511 trainees including 47 extra-departmental, 13 private and 21 foreign 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 Tables 2010

Hugli River Tide Tables 2010

Magnetic Bulletin of Sabhawala Magnetic Observatory for the Year 2007 Completed and for the year 2008 is in Progress.

## **CONFERENCES / SEMINARS / MEETINGS**

Maj. General, V.P. Srivastava, Additional Surveyor General, G&RB attended 6<sup>th</sup> Session of Inter Governmental Co-ordination Group for the Tsunami warning and Mitigation System (ICO / IOTWS - VI), Hyderabad on 07 to 09-04-2009.

Sh. Vipin Chandra, Director, Admin. & Finance, Surveyor General Office attended meeting in DST, New Delhi on 09-04-2009. Maj. General, R.S. Tanwar, Additional Survey General, Surveyor General's Office attended meeting in DST New Delhi on 10-04-09.

Maj. General R.S.Tanwar, Additional Surveyor General, Surveyor General's Office made a presentation in DST, New Delhi on 15<sup>th</sup> and 16<sup>th</sup> April, 2009. Senior Officers from Survey of India also attended the presentation.

Maj. General G.S.Chandela, Additional Surveyor General, Survey (Air) & DGDC attended meeting with NRSC and GIS & RS for collection of data on 24-04-09 at Hyderabad.

Maj. General V.P.Shrivastava, Additional Surveyor General, G&RB, attended 1<sup>st</sup> meeting of the Project Management Board (PMB) on "National Programme on Earthquake Preursors (NPEP) at New Delhi for 04-05-09 to 05-05-09.

Sh. Vipin Chandra, Director, Admn. & Finance, Surveyor General's Office attended the Contempt proceeding in CAT Delhi on 18-05-09.

Maj. General, P.N.Koul, Additional Surveyor General, Surveyor General's Office attended Anomaly Committee meeting in DST, New Delhi on 11-06-2009.

Maj. General, R.S.Tanwar, Additional Surveyor General (H.Q), SGO along with Sh. S.V.Singh Deputy Director, Surveyor General Office attended meeting at Planning Commission in New Delhi on 17-06-09.

Maj. General, S.K.Pathak, Additional, Surveyor General, Survey (Air) & Delhi GDC participated in 2<sup>nd</sup> meeting of the Committee to assess the quantum of Ravi water flowing across the International Border and its diversion held on 18-06-2009 at New Delhi.

Maj. General, C.S.Bewli, Additional Surveyor General, Eastern Zone, Kolkata along with senior officers of Survey of India attended Coal Mine Survey Project meeting with CMPDI official on 19-06-2009 at Kolkata.

Maj. General, P.N.Koul, Additional Surveyor General, Surveyor General's Office along with Sh. Ram Prasad, Director DMC, Dehra Dun and Sh. Nitin Joshi, ASG, Surveyor General's Office attended the meeting regarding Anomaly in DST, New Delhi on 23-06-09.

Sh. B.P.Nainwal, Deputy Surveyor General & Vigilance Officer, Surveyor General's Office held discussion in Law Ministry on WP(C) No.400/2008 field by Shri Rajendra Prasad on 24-06-2009

Sh. U.N.Mishra, Deputy Director, G&RB, visited New Delhi to attended Supreme Court appointed boundary commission meeting from 3 to 6-07-09.

Maj. General A.K.Padha, Additional Survey General, G&RB held discussion at D.S.T, New Delhi in context to the joint meeting to be held for publication of Tide Tables. He also attended joint meeting on publication of Tide Tables at ministry of shipping at New Delhi from 7 to 8-07-2009.

Maj. General Umesh Chander, Additional Surveyor General, International Boundary Directorate (SGO) attended meeting to finalize the action plan for commencement of RSTC and fencing work between B.P No 79 to 81 in more Indo Myanmar border in MHA, New Delhi on 08.07.2009.

Maj. General R.S.Tanwar, Additional Surveyor General (H.Q) along with Additional Surveyor General's of the department attended Additional Surveyor General's conference and also participated in technical discussion in DST from 23 to 24-07-2009.

Sh. Ram Prakash, Deputy Surveyor General, Surveyor General's Office visited Thiruvananthapuram regarding an inquiry at K & L GDC from 29-07-2009.

Maj. General, S.V.Chinnawar, Additional Surveyor General along with and Sh. N. Samantaray, Superintending Surveyor, Surveyor General's Office attended 7<sup>th</sup> meeting of monitoring & Implementation group of NUIS scheme at IIS&M, Hyderabad on 12-08-2009.

Sh. Chandra Pal, Deputy Surveyor General, Surveyor General's Office attended meeting with government standing council, New Delhi on 13-08-2009.

Maj. General P.N. Koul, Additional Surveyor General held discussion of JS (Admn) DST and attended contempt court proceeding in Hon'ble High Court, New Delhi on 19-08-2009.

Sh. R.K.Nigam, Director, Rajasthan GDC attended a meeting regarding construction and estimation of budget on Indo-Pakistan boundary pillars at Akbar Bhavan, Chanakiyapuri, New Delhi on 24-08-2009.

Maj. General, S.V.Chinnawar, Additional Surveyor General, Sh. B.P.Nainwal, Deputy Survey General and Sh. D.K.Kar, Superintending Surveyor, Surveyor General's Office attended the meeting and made a presentation on the subject "Expenditure of plan fund for the year 2009-2010" in D.S.T New Delhi on 26-08-2009.

Maj. General (Dr.) B.Nagarajan, Additional Surveyor General, IISM attended "Task Force for Mapping 1:10K scale using high resolution stereo satellite imageries" meeting at D.S.T, New Delhi on 8-09-2009.

Maj. General R.S.Tanwar, Surveyor General of India attended the meeting with the secretary, IP Government of NCT, New Delhi on 17-09-2009.

Maj. General Manoj Tayal, Surveyor General of India and Maj. General P.N.Koul, Additional Surveyor General, Surveyor General's Office attended the meeting in DST & Technology Information, Forecasting and Assessment Council (TIFAC) at New Delhi on 8-10-2009.

Maj. General S.V.Chinnawar, Additional Surveyor General, Sh. B.P. Nainwal Deputy Surveyor General and Sh. D.K.Kar, Superintending Surveyor, Surveyor General's Office attended meeting at DST, New Delhi on 26-10-2009 regarding plan/Non- plan expenditure.

Maj. General, Manoj Tayal, Surveyor General of India, Maj. General S.V.Chinnawar, Additional Surveyor General, Sh. S.V.Singh Deputy Director, Sh. N.Samantaray, superintending Surveyor, and Sh. D.K.Kar, Superintending Surveyor, Surveyor General's Office attended the meeting with the Secretary, Planning Commission on 5-11-2009 at New Delhi.

Maj. General A.K.Padha, Additional Surveyor General, G&RB, held discussion with Tamil Nadu maritime board officers regarding construction of Tidal observatory at cuddalore, Rameshwaram & Kanyakumari. and also attended the meeting with Director, DST (Union Territory) regarding smooth functioning of Tidal Observatories established at Kavaratti & Minicoy and held discussion with Cochin Port Trust officers regarding construction of Tidal observatory at Cochin Port from 15-11-2009 to 22-11-2009.

Maj. General, Manoj Tayal, Surveyor General of India and senior officers from Survey of India attended the 29<sup>th</sup> INCA International Congress at Kolkata from 21.11.2009 to 27.11.2009. The chosen focal theme of the congress is "Technological Solutions in Urban and Regional Mapping"

Sh. P.V.Srinivas, Deputy Surveyor General and Sh. S.V.Singh, Deputy Director, Surveyor General's Office, attended NUIS meeting at IISM, Hyderabad on 3-12-2009.

Maj General K.S. Kaliprasad, Addl. Surveyor General, Surveyor General's Office attended meeting at DST, New Delhi regarding mapping of Coastal Hazard line project on 7.12.2009.

Maj. General Manoj Tayal, Surveyor General of India, Held discussion with government council regarding contempt petition no. 25/2009 in OA No 16/2003 (V) filed by Sh. T.Pandey & others in hon'ble Cat, Allahabad Bench, Allahabad on 15-12-2009 and also attended above mentioned court case on 16-12-2009.

Sh. Ram Prakash, Deputy Surveyor General, Surveyor General's Office visited Assam & Nagaland GDC, Guwahati and Meghalaya & Arunachal Pradesh GDC, Shillong to inspect the progress in implementation of Rajbhasa Hindi from 16-01-2009 to 18-01-2009.

Maj. General P.N.Koul, Additional Surveyor General, Surveyor General's Office, attended training programme on National Institute of Advance studies (NIAS) DST at from 8 to 12-02-2010.

Maj. General Manoj Tayal, Additional Surveyor General, Surveyor General's Office, Maj. General Kali Prasad Additional Surveyor General, Surveyor General's Office, Maj. General V..P. Srivastava, Additional Surveyor General, G&RB and Sh. S.V.Singh, Deputy Director, Surveyor General's Office attended meeting in DST New Delhi to finalize the MoU Delineation of Hazard Line Project between Survey of India & Ministry of Environment and Forests on 10-02-2010.

Smt. Jaspal Kaur Pradyot, Director, Admn. & Finance, Surveyor General's Office, attended meeting at DST, New Delhi with JS (Admn), Director (SMP) and controller of accounts from 19-03-2010 to 23-03-2010.

Maj. General Kali Prasad, Additional Surveyor General, Surveyor General's Office, attended the meeting of Empowered Committee on Renew of Restriction in National Map Policy and Remote Sensing Data Policy constituted by the ministry of Defence on 26-03-2010 at New Delhi.

## **TECHNICAL PAPERS**

Director, Jammu & Kashmir GDC presented a Technical paper in the Map World Forum at Hyderabad.

Maj Gen (Dr.) B.Nagarajan, Additional Surveyor General, IIS&M also presented a technical paper on "Horizontal and Vertical Control Network of Large Scale Surveys" in Survey of India at DRDO Bhawan, New Delhi on 25.-06.2009.

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

Maj. General, G.S. Chandela, Additional Surveyor General, Survey (Air) & Delhi GDC visited Nairobi (Kenya) from 05-05-2009 to 12-05-2009 to attend "25th Session of the United National Group of Experts on Geographical Names (UNGEGN)."

Maj. General, Manoj Tayal, Surveyor General of India and Shri. S.K. Sinha, Deputy Director DSSDI Project, New Delhi visited Bangkok (Thailand) and attended "16<sup>th</sup> ISCGM meeting & 18<sup>th</sup> UN Regional Cartographic Conference for Asia and Pacific Conference from 25 to 29-10-2009."

Sh. Subhash Kumar, Officer Surveyor of Indian Institute of Surveying & Mapping, Hyderabad deputed for training on "Tsunami Early Warning in the Indian Ocean" for 3 weeks during January-February, 2010 at Jakarta, Indonesia.

## **VISIT TO SOI OFFICES**

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

55 students and staff members from IIRS, Dehra Dun visited on 14-04-2009.

A team of Assistant Commandants from ITBP, Dehra Dun visited on 08-06-2009.

30 students and staff members from Gandhi Smarak Triveni Degree College, Bardeh, Ajamgarh Dehra Dun visited on 24-06-2009.

30 Cadets and staff members from RIMC, Dehra Dun visited on 31-07-2009.

35 students and staff members from T.N.RSAC, Anna University, Chennai visited on 03-09-2009.

14 Students and Staff members from Department of Geography, MS University, Baroda visited on 05-10-2009.

14 Students and Staff members from Department of Earth and environment Science, Bhuj Kuchkh visited on 06-10-2009.

30 students and staff members from P.K.Singh Degree College, Mahendergarh (Haryana) visited on 24-11-2009.

A team of officer from Commanding officers, 36 Garhwal Rifle c/o 56 Apo visited on 10-12-2009.

34 students and staff members from Department of Geography, BHU, Varanasi visited on 05.01.2010.



39 students and staff members from Department Of Environment Science, Kolahapur visited on 17-02-2010.

24 students and staff members from Bangalore University, Janna Bharti, Bangalore visited on 12-03-2010.

40 students and staff members from IIRS, Kalidas Road, Dehra Dun visited on 25-03-2010 to 26-03-2010.

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

Mr. R. Thamil Selven and 25 cadets of Rastriya Indian Military College (RIMC) Dehra Dun visited this centre on 31-07-2009.

Dr. V.S.Rathore and 33 Students of Birla institute of Technology, Ranchi visited the Centre on 23-12-2009.

Prof. V.K. Sharma with 21 other Scientists Administration, New Delhi visited on 08-01-2010.

Dr. R.S. Singh, Head of the Department, Geology from SSV College Hapur, Meerut visited this office with the Student on 08-04-2010.

### **CULTURAL AND EDUCATIONAL ACTIVITIES**

Institution of Surveyor (Hyderabad Branch) & Survey of India jointly organized "National Technology Day" on 11-05-2009 at Indian Institute of Surveying & Mapping, Survey of India, Hyderabad. Prof. Najamul Hasan, Department of Astronomy, Osmania University, Hyderabad and Shri. Kishore Kumar, Scientific Officer, Birla Planetarium, Hyderabad delivered Lectures on "Milky Ways Galaxy- its Structures and Dynamics "and "Universe" respectively.

A workshop on "Effective Implementation of Digital Photogrammetry in Survey of India" was conducted in Indian Institute of Surveying & Mapping from 10-09-2009 to 11-09-2009. Senior Officer of Survey of India and officers from other scientific departments participated in the workshop.

### **NATIONAL SCIENCE DAY**

As a part of the country wide celebration of National Science Day on 28-02-2010. Survey of India organized exhibitions during the period from 26-02-2010 to 28-02-2010 at different cities. Displaying of the exhibitions and demonstration of various instruments on surveying and mapping were made for the students and technocrats. The theme of the celebration was "Gender Equity For Prosperity Peace." Sh. B.K. Bansal, advisor, Ministry of Earth Science, New Delhi being the chief guest, inaugurated the exhibition organized by IIS&M & other directorates stationed at Hyderabad.

## DEVELOPMENT SURVEYS

The following project surveys were continued/ carried out during the year 2009-2010

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### State

### Name of Project

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#### **Andhra Pradesh:**

Sri Sailam Dam Project

#### **Arunachal Pradesh:**

Dibang Multipurpose Project

NUIS Project (Jowaitown- Core area)

Large Scale Mapping of Itanagar Project

#### **Bhutan:**

Punatsangchhu HE Project Stage II

#### **Delhi:**

Central Water Commission

Qutb Minar Project

#### **Gujarat:**

Kalpasar Project

#### **Himachal Pradesh:**

Koldam HE Project

Shong Karchhuam HE Project

Renuka Dam HE Project

Uhal HE Project

#### **Karnataka:**

Nirmala Nagar Project

#### **Maharastra:**

Altinho Hillock Goa Project

NMEM Project

NPCIL Project

HAL Project

#### **Meghalaya:**

NUIS Project – Tura

#### **Manipur:**

RSTC Work for Fencing Project

#### **Punjab:**

Bhakra Dam HE Project

**Uttar Pradesh:**

Taj\_Mahal Agra Project

Indrapuri Reservoir HE Project

**Uttarakhand:**

Tapovan Vishnugad HE Project

Lohari-Nag-Pala HE Project

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

SL. NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	110.18	Office Procedure	21	--	--	--	
2	112.01	Stores Management	11	--	--	--	11
3	113.01	Record Management	08	--	--	--	08
4	150.84#	Surveying Technician	10	--	--	--	10
5	340.37	Digitization of Cartographic Documents	16	--	--	--	16
6	340.38	Digitization of Cartographic Documents	09	--	--	01	10
7	340.39	Digitization of Cartographic Documents	11	15	--	--	26
8	400.84(A)#	Surveying Supervisor	36	--	--	--	36
9	400.84(B)#	Surveying Supervisor	25	--	--	--	25
10	400.85#	Surveying Supervisor	24	--	--	--	24
11	400.86(A)#	Surveying Supervisor	40	--	02	--	42
12	400.86(B)#	Surveying Supervisor	42	01	--	--	43
13	400.87#	Surveying Supervisor	11	--	--	--	11
14	400.88#	Surveying Supervisor	29	--	--	--	29
15	400.89	Surveying Supervisor	03	--	--	--	03
16	415.01	Use of total Station in Cadastral survey	--	--	--	--	--
17	400.14 #	GIS Applications	13	01	--	01	15
18	400.15	GIS Applications	10	01	--	--	11
19	445.90	Photogrammetric Operator	09	--	--	02	11
20	480.21 #	Digital Photogrammetry & Remote Sensing	18	--	--	02	20
21	480.22	Digital Photogrammetry & Remote Sensing	06	--	--	--	06
22	480.23	Digital Photogrammetry & Remote Sensing	08	03	--	--	11
23	480.24	Digital Photogrammetry & Remote Sensing	03	01	--	--	04
24	480.25	Digital Photogrammetry & Remote Sensing	--	03	--	01	04
25	485.01	Mid Career Course for DSS/Surveyors	05	--	--	--	05
26	496.01	Refresher Course for Officer Surveyors / Surveyors	08	--	--	--	08
27	500.68 #	Surveying Engineer	--	--	09	--	09
28	500.69#	Surveying Engineer	03	01(Army)	06	--	10
29	500.70	Surveying Engineer	03	--	--	--	03
30	500.71	Surveying Engineer	--	--	04	--	04
31	585.04	Map updation using Mobile Mapping System	12	--	--	--	12
32	690.16	Control and Detail Survey by GPS & total station	10	--	--	04	14
33	690.17	Control and Detail Survey by GPS & total station	--	12	--	--	12
34	690.18	Control and Detail Survey by GPS & total station	01	09	--	02	12
35	700.19#	Advanced Geodesy	03	--	--	--	03
36	700.20	Advanced Geodesy	04	--	--	--	04
37	740.07	Advanced Course on GIS	07	--	--	--	07
38	770.02#	Advanced Geomatics	03	--	--	--	03
39	820.01	Refresher Course for Addl. S.Gs / Directors	08	--	--	--	08
		Total:	430	47	21	13	511

# Courses continuing from previous year.

SL. NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	Spl. #	Training on GPS & Total Station for trainees of Kerala Govt. (IV <sup>th</sup> Batch)	--	30	--	--	30
2	Spl.	Training on Land Information System (NLRMP)	--	21	--	--	21
3	Spl.	Vocational Practical training for Engineering student	--	--	--	24	24
4	Spl.	Training on Land Information System (NLRMP)	--	29	--	--	29
5	Spl.	Course on Geo-referencing & Vectorization for trainees of Kerala Govt.	--	30	--	--	30
6	Spl.	Orientation Course on Modern Survey & Mapping for Officials of Rajasthan Govt.	--	08	--	--	08
7	Spl.	Training on GPS & Total Station for trainees of Kerala Govt. ( V <sup>th</sup> Batch)	--	29	--	--	29
8	Spl.	Training on Sample Integrated Data Base under NUIS scheme	--	15	--	--	15
9	Spl.	Training on Sample Integrated Data Base under NUIS scheme	--	14	--	--	14
10	Spl.	Special Course on Modern Surveying for S&LR, Andhra Pradesh	--	11	--	--	11
11	Spl.	Special Course on Modern Surveying for S&LR, Andhra Pradesh	--	06	--	--	06
12	Spl.	Training on Latest Survey Techniques for Power Grid officials	--	18	--	--	18
13	Spl.	Course on Modern Survey Techniques for Survey & Settlement Staff of Tamilnadu	--	15	--	--	15
14	Spl.	Course on Modern Survey Techniques for Survey & Settlement Staff of Tamilnadu	--	15	--	--	15
15	Spl.	Course on Modern Survey Techniques for Survey & Settlement Staff of Puducherry	--	14	--	--	14
16	Spl.	Course on Digital Photogram try & Remote Sensing and GIS Applications for Staff of Mizoram	--	11	--	--	11

**SPECIAL COURSES FOR SPECIFIC USERS**

17	Spl.	Course on GPS & Total Station for officials of Chhattisgarh	--	09	--	--	09
18	Spl.	Course on Modern Survey Techniques for Survey & Settlement Staff of Puducherry.	--	16	--	--	16
19	Spl.	Training on Sample Integrated Data Base under NUIS scheme.	--	16	--	--	16
20	Spl.	Course on Modern Survey Techniques for Survey & Settlement Staff of Tamilnadu	--	15	--	--	15
21	Spl.	Course on Modern Survey Techniques for Survey & Settlement Staff of Puducherry.	--	13	--	--	13
22	Spl.	Course on GPS & Total Station for official of Chhattisgarh.	--	12	--	--	12
		Total:	--	347	--	24	371

# Courses continuing from previous year.

**Appendix - C****SHORT TERM AWARENESS COURSES**

SL. NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	-	Seminar on GIS and other Modern trends in Mapping	05	18	--	--	23
2	-	GPS & Total Station Concept & Application	--	26	--	02	28
3	-	Datum Co-ordinates and Projection Concept for Advanced Map user	--	25	--	--	25
		Total :	05	69	--	02	76

**ACADEMIC COURSES**

SL. NO.	COURSE NO.	NOMENCLATURE	DEPTL.	EXTRA DEPTL.	FOREIGN	OTHERS	TOTAL
1	Academic	M.Tech(Geomatics)-2007-09 #	--	--	--	11	11
2	Academic	M.Tech (Geomatics)-2008-10	--	--	--	11	11
3	Academic	M.Tech (Geomatics)-2009-11	--	--	--	16	16
		Total :	--	--	--	38	38

# Courses continuing from previous year.

**USE OF HINDI IN OFFICIAL WORK**

In accordance with the Official Languages Rules, 1976, 16 Geo-Spatial Data Centers/ Directorates/ Printing groups including headquarter of Survey of India are located in Region 'A' while 6 Geo-Spatial Data Centre in Region 'B' and 21 Geo-Spatial Data Centers/ Training Institute/ Printing groups / Zonal Offices are in Region 'C'. The position regarding the use of Hindi in the department for the year 2009-2010 remained as under:-

**Correspondence**

During the year 2009-2010 intensive measures were taken for transacting the official work of the union in Hindi by the various offices of the department. 5,482 documents were issued bilingually under section 3(3) of the Official Languages Act, 1963. Letters received in Hindi were replied to 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 – 76.6%
  - With 'C' Region – 64%
  
- 2) Correspondence in Hindi by the offices located in Region 'B'
  - With 'A' and 'B' Region – 79.6%
  - With 'C' Region – 71.8%
  
- 3) Correspondence in Hindi by the offices located in Region 'C'
  - With 'A', 'B' and 'C' Region – 39.2 %

**Training**

During the period under report 42 officers/employees passed Hindi Prabodh, Praveen and Pragya examination and 05 LDC's passed Hindi Typing examination, under Hindi Teaching Scheme.

## **Hindi workshop**

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 Kerala & Lakshdweep GDC, Thiruvananthapuram, Karnataka GDC, Bangalore, Southern Printing group, Hyderabad, Jharkhand GDC, Ranchi.

Shri Prem Singh, Joint Director (OL) Ministry of Science and Technology delivered a lecture in Hindi Workshop Organized in Surveyor General's Office, Dehra Dun on 03-09-2009. Ninety Eight officers received training in this workshop.

Shri. Indresh Sachdeva, D/man Gde-II, Surveyor General's Office was awarded third prize for Hindi Picture story writing competition organized under the auspicious of town official language implementation Committee, Dehra Dun. Shri. Nand Kumar Tiwari, Assistant, Surveyor General's Office presented the paper on "भारतीय सर्वेक्षण विभाग – उपलब्धियां एवं भविष्य में विकास की संभावनाएं" on 15-10-2009 in Defence Research and Development Organization, Instruments Research Development Establishment, Dehra Dun for all India Scientist and Technical Hindi Seminar.

## **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 Establishment -3 section for doing maximums work in Hindi in Surveyor General's office, Dehra Dun. On this occasion prize distribution care money, 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:-

Western Printing Group, Delhi	---	मुद्रण दीपिका
Map, Archive & Dissemination Centre, Dehra Dun	—	दृश्यांतर
Rajasthan GDC, Jaipur	—	नया प्रयास
Northern Printing Group, Dehra Dun	—	मुद्रण मंजुषा
Punjab, Haryana & Chandigarh GDC, Chandigarh	—	जागृति
Jharkhand GDC, Ranchi	—	अभिव्यक्ति
Geographical Information System & Remote Sensing Directorate, Hyderabad	—	पुष्पांजली
Southern Printing Group, Hyderabad	—	प्रेरणा
Assam & Nagaland GDC, Guwahati	—	संवेदना
Eastern Printing Group, Kolkata	—	आभा



## **Inspection**

During this period, Shri Dhoom Singh, Asstt. Director (O.L.) and Smt. Saroj Baloni, Hindi Translator, Surveyor General's office, Dehra Dun carried out Inspection of G&RB, Dehra Dun /Uttarakhand and West Uttar Pradesh GDC, Dehra Dun and National GDC, Dehra Dun from 15-07-2009 to 19-07-2009. Inspection of Surveyor General's Office, Dehra Dun on 03-09-2009 by Sh. Prem Singh, Joint Director (OL), Ministry of Science & Technology was carried out. Inspection regarding the use of Hindi was carried out in Survey of India offices located in Region 'C' North Eastern Zone Shillong & Assam & Nagaland GDC, Guwahati on 16-02-10 to 19-02-10 by Shri. Ram Prakash, Deputy Surveyor General, Shri Dhoom Singh, Asstt. Director (OL) along with Shri Khushal Singh Negi, Hindi Translator, Surveyor General's Office, Dehra Dun.