Minutes of the Third meeting of CGPB Committee XI:
Geoinformation and Data Management

The meeting was held at Kolkata on 9th July 2010 and was chaired by Shri N. K. Dutta, DG, GSI. The meeting was also graced by the presence of representatives of different member organizations and other senior officers of GSI.

Inaugural Addresses
Convenor: Shri A K Malaviya, Dy. DG (IT) in his welcome address emphasized on the need of collaboration and fruitful engagement among different member organizations to effectively utilize the data generated and maintained by different organisations to provide quality services to stakeholders and public. He made the house aware of the need of preparing a **Base Document** on Geoinformatics and Data Management as decided in the Second meeting where all members were requested to prepare the same for placement in the 47th CGPB meeting scheduled to be held on 25th – 26th August, 2010. He conveyed to the members that GSI has prepared one draft document which would be presented and discussed in this meeting. He appealed to all members to put their requirements into words and help to finalize the document at the earliest. ***Action – All members***
Chairman & DG, GSI: In his speech, DG, GSI Shri N. K. Dutta requested for feedbacks from other organizations on GSI portal and expressed desire to be linked up with portals of other organizations with the aim of data sharing and dissemination. He mentioned that issues regarding data security should be sorted out through formulation of Data Policies for individual organisations. He asked for cooperation from DST/NSDI for betterment of organizational Geo-portals. ***Action – NSDI***
Shri M. M. Swamy, Additional DG, stated the importance of Geoinformatics for organizations that deal with spatial data and building of metadata in Geosciences. He emphasized the importance of dissemination of geoscientific information for economic development of the country. He stated that the organization should look forward to coming up with something of utmost importance for benefit of the society.
Member Secretary: Shri B Nageswaran, Suptd Geologist gave a brief overview of the interactions during last one year among different member organizations through the platform of CGPB Committee XI. He stated that 1. Through interactions the members became aware of each others data holdings. 2. It is evident that so far as IT infrastructure and digital data availability are concerned member organizations have different growth levels.

3. Also, in terms of policy regarding data sharing, there are some differences in approach among the member organizations and it may take some time to resolve those issues. As for example, AMD generates data which are classified and majority of data that MECL generates are owned by the sponsors.

4. Therefore, primary target for all the members should be to set and roll-out a mechanism for converting the volume of data into digital format keeping in mind the open standards and interoperability.

5. Meanwhile, technological and administrative aspects of sharing data and creating IT services need to be explored; for which NIC is ready to provide technology and consultancy.

Member Secretary presented the IT activities of GSI and discussed on the effectiveness of GSI Portal in information dissemination. He also highlighted incorporation of new applications and the changes made in the GSI Portal during last six months.

Deliberations by Member Organizations

Department of Science & Technology: Shri P S Achariya presented the work carried out by NRDMS / NSDI Division of DST including an overview of technology. He stated that the main challenge is to interface Geo-Portals of different organizations. NSDI recommends interoperable Data Node at different member organizations for efficient sharing of geoscientific data within the framework of NSDI. The problems that are faced include semantic, schematic, syntactic heterogeneities as well as institutional constraints. He gave an example of solution architecture that each organization should adopt and stated that the Base Document as prepared by GSI is in that line only. He emphasized the need of adopting OGC compliance and use of GML for easy implementation of interoperability. He discussed about the GeoPortal of Karnataka. He deliberated on the following specifications and steps for creation of Geo-Portal by different organisations:

1. Database : User Requirement gathering, Real world object cataloguing, development of conceptual Data model

2. Creation of Geo Services: OGC Portal Reference architecture adopting Cs-W, WMS, WFS, GML, KML

3. User acceptance

4. Training and operationalisation

He gave example of Govt. of India Geo-Portal that fetches data from its contributing member organizations and provides a common interface for accessing the data.

However, he also stated that these currently exist more as an enabling systems (Pilot projects) and those are to be made performing infrastructure capable of supporting full scale operation with well defined data sharing policy.

Atomic Minerals Division: Shri Shanti Kumar C explained the data holding and current It infrastructure of AMD as given below;

1. AMD offices (6 Regional Offices and HQ) are interconnected through organizational VPN.

2. It has 60 years data on Uranium, Thorium and rare-metal exploration data in the form of reports / maps.

3. Maps are captured in GIS and data in Oracle DB.

4. AMD has a lot of drilling data which they are going to convert into digital format / database. Also they possess Airborne Geophysical data.

5. These data are used internally by scientists for their projects.

6. AMD is yet to decide on how much of these data can be made available for public.

In response to the query by Chairman that how much of these data can be shared, the representative conveyed that till data AMD does not have any organizational data sharing policy in place.

Shri P S Achariya from DST stated that AMD should communicate to NSDI about its data set so that NSDI can update the NSDI metadata structure.

Action – AMD

Mineral Exploration Corporation Limited: The representative Shri Sahay stated that MECL can not put all its data in public domain because these data belong to the clients for whom MECL has generated it. However, MECL has developed its portal (www.mecl.gov.in) where some of reports are present.

Shri Sahay stated that MECL is in position to extend help to other organizations in developing organizational IT infrastructure.

Representative of DST commented that there is a need for revision of policy so

that in future MECL can share its data.

Action – MECL

ISRO: Shri S K Pathan elaborated the role of ISRO in data creation and dissemination through NRDB.

1. ISRO has developed and designed the NNRMS standard.
2. It has adopted OGC standards
3. It uses indigenously developed GIS (IGIS)
4. ISRO data holding include 1258 layers in maps of different scales (1:250K; 1:50K)
5. It has uploaded (www.nnrms.gov.in) maps on different themes like Desertification status map, wasteland map, wetland map etc.

Chairman & DG, GSI stated that in some cases same type of maps are produced by different organizations. NSDI should address this issue so that duplicity can be avoided.

Action – NSDI

Indian Meteorological Department: Shri L R Meena from IMD described the nature of data and services IMD provides followed by live demonstration of IMD Portal.

1. Maps upto Taluka level for climatic forecast is to be made available to public
2. Shri Meena stated that IMD needs guidelines for developing their data sharing / dissemination infrastructure.

Representative of ISRO commented that satellite data (Bhuvan) of ISRO can be integrated with IMD data. For this some geotagging tools are to be developed. Some agency is to be identified for taking up the job.

Presentation on application of GIS tools for spatial data analysis

Two case studies have been presented by GSI scientists regarding utilization of GIS tools for data analysis.

1. Shri Joyesh Bagchi on aeolian sediment transport using statistical and GIS tools (Trend Surface Analysis).
2. Shri P K Sinha on prognostication of target zones in search of kimberlites in Dharwar Craton using GIS (Index overlay model coupled with Bayesian Probability principle).

Presentation on Quality Management in Geoinformatics
Shri, K K Chatterjee, Director, GSI has presented an extensive overview of Quality Management measures in Geoinformatics. He deliberated on the principles of PDCA cycle that Management System of any organization dealing with Geoinformatics should put in place. He also elaborated on the challenges that needs to be overcome by an organization before a sound quality management system can be made operational.
Presentation of Base Document for Geoinformation and Data Management by GSI
The base-document of Mission III – "Future Strategy for Geoinformation and Data Management in Earth-science related Organisations" was presented and discussed. The salient points of the presentation / discussion were 1. the System (OGC compliant, SOA based) 2. Data-warehouse (Seamless maps (Geological / Geochemical / Geophysical etc) of entire country at 1:50,000 scale; Terrain data; Exploration data in real world coordinate system; Tenement Registry; Marine data; Recent and historical earthquake data; landslide data etc.) 3. Framework (Reliable network for efficient data flow consisting of I. Geoscience Portal (Portal /Map / Catalogue / Data Services) II. Secured network III. Document Management System 4. Implementation and integration of the system 5. Human Resource etc.

Important Conclusions
Highlight of the meeting consists of these important deliberations and decisions: **A. Data Sharing:** It has been observed that majority of member organizations are, as yet, not ready to share their data. Discussion: Chairman & DG, GSI stated that NSDI should help others by creating awareness by publishing booklets / news etc regarding standards, technology and the current activities. Shri S K Pathan from ISRO stated that NSDI is working on formulating and sharing information regarding standardization of Metadata, Protocol and Content.

Shri P S acharyya stated that NSDI has the role of facilitator. The participating organizations should develop their own systems in conformity with open standards. NSDI is there to help different organizations.

The following conclusions are made

1. Compliance to OGC / NSDI standard needs to be adopted at the earliest by the member organizations.

2. Metadata of different member organizations may be sent to NSDI

3. Data Sharing Policy for different organizations are to be in put place

Action: All members

B. Collaborative Projects: Some of Member organizations asked for data from other organizations which they can utilize in their Portal viz. AMD is eager to obtain geological map from GSI, IMD wanted high resolution satellite data from ISRO, MECL wanted Landslide maps from GSI and rainfall data from IMD etc.
Chairman remarked that instead of taking data from each other and putting in their portal, collaborative efforts can be made with help from NSDI so that the data can be shared.

Collaborative projects among GSI, MECL, AMD or any other organizations may be taken up to test interoperability.

Action: All members

C. Base Document: A comprehensive draft document prepared as per OGC standard was given as hard print out to all participating organisations with a request to give feed back at the earliest. Also it has been sent to all member organizations who could not attend the meeting for their feedback. The final document after incorporation of the suggestions from all participating organisations will be placed to the CGPB meeting in New-Delhi.

All member organizations should give their feedback by 26th July, 2010

Action: All members

The meeting ended with vote of thanks by the Member Secretary.

List of Participants:

Sl	Name	Organisation
1	Shri N K Dutta,	DG, GSI, Kolkata
2	Shri M M Swami	ADG, GSI, Kolkata
3	Dr S. Ghosh	DDG, GSI, Kolkata
4	Shri. A K Malaviya	DDG, GSI, Kolkata

5	Shri J N Ray	DDG, GSI, Shillong
6	Shri. PS Acharya	DST, New Delhi.
7	Shri.Shanti Kumar. C	AMD, Hyderabad
8	Shri.Dr. Subhan K Pathan	ISRO, Ahmedabad
9	Sri.Rajesh Kr. Pandey	DGM (Jharkhand)
10	Sri Sahay	MECL Nagpur
11	Shri. L.R. Meena	IMD, Hyderabad
12	Shri. B Nageswaran	GSI, Kolkata
13	Shri. K K Chatterjee	GSI, Nagpur
14	Shri. Indu Prakash Bajpai	GSI, Lucknow
15	Shri. P.K.Sinha	GSI, Hyderabad
16	Shri.I R Kirmani	GSI, Jaipur
17	Shri.B.K Sareen	GSI, Shillong
18	Smt. S. Bandhyopadhyay	GSI, Kolkata
19	Shri.S.K. Shrivastava	GSI, Jaipur
20	Shri. K Nagaraja Rao	GSI, Kolkata
21	Shri. D. Mohan Raj	GSI, Bangalore
22	Shri. Kuldeep Kachroo	GSI, Faridabad
23	Dr.Joyesh Bagchi	GSI, New Delhi
24	Shri. A.K Gupta	GSI, New Delhi
25	Shri. N. Subramanai	GSI, Kolkata
26	Shri. Amitava Bandyopadhyay	GSI, Kolkata
27	Shri Somnath Bhattacharyya	GSI, Kolkata
28	Shri. Deba Prasad Das	GSI, Kolkata
29	Shri. Saswati Chatterjee	GSI, Kolkata
30	Shri.Partha Singh	GSI, Kolkata
31	Shri. A Bhattacharyya	GSI, Kolkata
32	Shri Saudipta Chattopadhyay	GSI, Kolkata
33	Shri Basab Mukhopadhyay	GSI, Kolkata
34	Shri M. Sengupta Ghosh	GSI, Kolkata
35	Shri S R Mohanty	GSI, Kolkata
36	Shri Asit Saha	GSI, Kolkata
37	Shri Ravichandran R	GSI, Kolkata
38	Shri Niladri Hazra	GSI, Kolkata
39	Shri D. Bhattacharyya	GSI, Kolkata
40	Dr. Biman Ghosh	GSI, Kolkata