

# Minutes of Meeting Geospatial Think Tank Meeting

Date: Wednesday, May 20, 2020

Time: 10:30 – 12:00 hrs.

Venue: Online (Microsoft Teams)

<p>Attended by:</p> <ol style="list-style-type: none"><li>1. Kiran Kumar</li><li>2. Dr. V. K. Dadhwal</li><li>3. Dr. K. J. Ramesh</li><li>4. Dr. Akhilesh Gupta</li><li>5. Dr. P. G. Diwakar</li><li>6. Dr. Shubha Pandey</li><li>7. Agendra Kumar</li><li>8. K.J. Ramesh</li><li>9. Jagdeesh Rao</li><li>10. Rajesh Alla</li><li>11. Lt. Gen. Rajesh Pant</li><li>12. Shirishkumar Ravan</li><li>13. Vishnu Chandra</li><li>14. Anoop Singh</li><li>15. Ashwani Kumar Akella</li><li>16. Pankaj Mishra</li><li>17. Rajan Aiyer</li><li>18. Sajid Mukhtar</li><li>19. Nikhil Kumar</li><li>20. Vinit Goenka</li><li>21. Kaushik Chakraborty</li><li>22. Pramod Kaushik</li><li>23. Sanjay Kumar</li><li>24. Lt. Gen. Ajay Chandele</li><li>25. Megha Datta</li><li>26. Anamika Das</li><li>27. Prashant Joshi</li><li>28. Ananya Narain</li></ol>	<p>Apologies from:</p> <ol style="list-style-type: none"><li>1. Kamal Kishore</li><li>2. Shambhu Singh</li><li>3. Subhash Ashutosh</li><li>4. Srinibas Patnaik</li><li>5. Amit Ghosh</li><li>6. Raj Khatri</li><li>7. O.P. Agarwal</li><li>8. Pratima Joshi</li><li>9. Arun Bhardwaj</li><li>10. Dr. Mohan Reddy</li><li>11. Dr. Shailesh Nayak</li><li>12. Dr. Debpriya Dutta</li><li>13. Dr. Mahak Garg</li><li>14. Lt. Gen. Girish Kumar</li></ol>
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Minutes:

## Key Points from the Chairman's Opening Address

With life taking a reset or restart button – overcoming inhibitions and reluctance and capturing the partnership mood for collaborative work is the need of the hour.

1. Initiating a mechanism whereby data generated from different sources can be brought into a common format for its effective utilization by data generators and consumers/users of data.
2. Pertaining to personal information and security issues with respect to personal data – healthcare or migrant population data could be securely coded restricting names and other personal records to be shared.
3. Focus on opportunities to block constraints and exposing people to novel ways of doing things.

## **Suggestions for the Sectoral Working Group Members:**

### **Agriculture:**

#### Structure of the Paper:

- Land Information System and uses of spatial, climate, soil data, etc. Need for a Land Information system Global Vs Local. Focus on current real-time monitoring and precision agriculture.
- Interlinking with supply chain – harvest to consumer – processing – warehouse/factory can be done – as part of geospatial management.
- Stages of Agriculture – technology gaps: private company routine interactive processes; and policy gaps: surveys and consolidation of ideas of the Think Tank.

#### Suggestions:

- Consider Orissa project under the Centre for Spatial Analytics and Advanced GIS (C-SAG) and National Institute of Advanced Studies (NIAS), where individual economic ability of farmer via 'Farmer as an economic unit' is emphasized.
- PM Fasal Bima Yojna includes evaluation of geospatial technologies such as drones, AI, crop simulation, field surveys, etc.
- Another example from IIT and Japanese University using IoT for precision agriculture to be considered as case study.
- M.S. Swaminathan Foundation can be contacted as well.

### **Supply Chain and Logistics:**

#### Structure of the Paper:

- Components discussed are
  - Models of PPP engagement
  - Location/Geospatial platforms are bringing to the table
  - Commercialization capabilities
  - Increase entrepreneurships
- Supply Chain Management includes: Fleet Management (supply & delivery), Supply Chain (consigner and shipper; product and retailer); and Urban Mobility (food delivery; multi-modal transport).

#### Suggestions:

- Farm to Plate to be taken up by agriculture or under supply chain management
- There are two aspects to farm and plate i.e location mapping and asset management. The working group can take up location mapping aspect but dynamic asset mapping like mapping warehouse will be a challenge.
- Data dependent – dynamic data dependency such as line traffic data. Availing organized data, conjugation of data and routing is a ginormous and challenging task.

### **Water Resource Management:**

#### Structure of the Paper:

- Framework for creating water status and outlook
  - Water availability – Surface and Groundwater
  - Water Resource – Access and Utilization
  - Data availability and use – rainfall, temperature daily basis 0.25 to 0.25° grid. Example: Andhra Pradesh and application of telemetry records upto last command.
- Framework to assess above normal and below normal resource availability

#### Suggestions:

- Reservoir to Farm water automation to spatial scale.

- Rainfall/River Runoff/River water spread – forecasting of hydrometeorological disaster
- Grid matrix data significant along with network data
- Large number of lakes and ponds – critical availability – quality of water/runoff flow/non-point pollution – Vassar Labs and Prof. Gosai from IIT Delhi considered for this
- CPCB water quality data to be explored for tanks and reservoirs.
- IDSP and Jal Shakti Drinking Water Directorate to be interlinked with National Health Mission and related availability of water.
- Urban Water Supply interface with Ministry of Urban Development and Smart Cities

### **Urban Transformation and Smart Cities:**

#### Structure of the Paper:

- Emphasis on awareness since lack of knowledge and shortage of skilled members is vivid in this sector.
- Focus on practical results – adoption of geospatial data – lead to good results – increases speed of execution and cost reduction.
- GIS & RS data is becoming easy to access so determining areas of utilization and application.

#### Suggestions:

- Commercialization and interlinking with Healthcare sector – interlinking of sectors suggested.
- Awareness at municipality level for the application and use of geospatial data – capacity building – Issues to be addressed and overcome by knowledge sharing.
- Smart Cities focus on turning big cities capable of expanding – but COVID scenario emphasized concentration of population not feasible. Need to identify new potential urban growth centers turning the focus on smaller cities and not only big cities.

### **Ecology and Environment:**

#### Structure of the Paper:

- Considering the nomenclature Ecology and Environment should consider agriculture ecosystem, water ecosystem, etc. thereby focusing on forest ecosystem – Forest SDGs and NDC.
- Focus on conventional biodiversity, commercial aspects, forest rights/act, national rural employment in relation to forests, and biodiversity.
- Unifying geospatial technology for habitat development – unifying Forest Sol, Zoological Sol and Forest Sol.

#### Suggestions:

- Consolidate the current activities, generate information, and define a broader objective for Ecology and Environment.
- Focus on preservation of biodiversity in the forest especially use of geospatial technology in creation of forest boundary maps/database. Examples CAMPA scheme, Chhatisgarh, Tamil Nadu, Orissa forest boundary – Kakinada.
- Comprehensive study of ecosystem group interaction – ecosystem-based forest disaster (Sendai Framework), Blue-Green Infrastructure – IIT Roorkee with examples from New York.
- Ideally Ecology and Ecosystem segment emphasize where typology is right, and content can have desirable overlaps.
- Theoretically and subject wise thematic groups handles specific segments, but Ecology and Environment can cover residual areas such as air pollution, desertification – international and transboundary.
- Overlaps interdependent so an attempt can be made to synchronize and bring everything together.

### **Final Summary**

1. Primary objective – Knowledge of what geospatial technology can do and is doing across different disciplines and how are they linked.
2. Focus on the success achieved so far rather than weighing the problems and talking about them.
3. List out assessments of what agencies can do. Available data – government, non-government, or private and visualize what more can be done or generated from what is achieved.
4. Energize capabilities of geospatial technologies – point out what geospatial can achieve overcoming the restricted information. Focus on what is unrestricted knowledge and help to promote what can be done more in future.
5. Reconsider what policies hindered the success of projects or the lack of any policy led to the inability of fulfilling the project and then address the policy needs for the future.
6. Consolidate projects of Central/ State – list out initiatives of the and study what data was used or required for them. Refer to the end-product and then go back to reverse check the components.

## Sectoral Working Groups Presented (in blue)

<i>Sectors</i>	<i>Geospatial Media Team</i>	<i>Think Tank Members</i>
<i>Agriculture</i>	Anshita Rawat Ruben Jacob	Dr. P G Diwakar Dr. V K Dadhwal
<i>Supply Chain and Logistics</i>	Sarah Hisham Tarun Kumar	Nikhil Kumar Srinibas Pattnaik
<i>Water Resource Management</i>	Tuba Zahra Amit Roshan	Dr. Shailesh Nayak Dr. K J Ramesh Arun Bhardwaj
<i>Urban Transformation and Smart Cities</i>	Kasiranjan Mahalingam Titas Roy	Agendra Kumar Pratima Joshi
<i>Ecology and Environment</i>	Megha Datta Manish Singh	Dr. Debpriya Dutta Jagdeesh Rao
<i>Healthcare</i>	Shreya Chandola Neeraj Budhari	Vishnu Chandra Raj Kumar Khatri
<i>Land Administration</i>	Abhishek Kotangale Anamika Das	Pramod Kaushik Lt. Gen. Girish Kumar Rajesh Alla
<i>Transport Infrastructure</i>	Deepali Roy Siddharth Verma	O P Agarwal Kaushik Chakraborty Rajan Aiyer Amit Ghosh
<i>Disaster Management</i>	Ananya Narain Prashant Joshi	Kamal Kishore Lt Gen Rajesh Pant Lt Gen AKS Chandele
<i>Energy Manufacturing</i>		