

NATIONAL GEOSPATIAL POLICY

1. Preamble

1.1.1 The location and its coordinates define planet earth. The Geospatial information describes the physical location of geographic features and their relationship to other features and associated statistical information. It can be presented in many forms and mediums including maps, imagery , database and models etc. The data coupled with a location and in perspective of other coordinates of comparison becomes a value proposition which have multiplier effect in economic terms.

1.1.2 Almost every area of the economy have application of geospatial technology ranging from agriculture to industries, development of urban or rural infrastructure, administration of land, economic activities of banking and finance, resources, minerals, mining, water, disaster management, health planning, delivery services, etc. Today , geospatial data is widely accepted as a critical infrastructure and national information resource with proven societal, economic and environmental value that enables government systems and services, and sustainable national development initiatives, to be integrated using ‘location’ as a common and underpinning reference frame.

1.2 The National Geospatial Policy, 2021 (The Policy) is a citizen-centric policy that liberalizes the geospatial sector and democratizes the datasets generated by use of public funds. The Policy spells out the vision, goals and also outlines the approach and strategy for holistic development of geospatial ecosystem in our country. It aims to develop the Geospatial Infrastructures and also seeks to strengthen the national and sub-national arrangements for generation and management of geospatial information.

1.3 Recognizing that the citizens, communities, government, local bodies, businesses, academia in India need to be empowered with freely available Geospatial data, services, solutions, Department of Science and Technology (DST), Government of India (GoI) intends to promote the use/reuse of geospatial data/products/solutions/services by providing open data/services/solutions through a network of Geospatial Platforms at national and sub-national levels .

1.4 The Policy seeks to create, nurture and develop a geospatial ecosystem that would enable and encourage spatial thinking, add to geospatial knowledge, strengthen geospatial infrastructure, augment capacity building and promote effective use of Geospatial Data, Products, Services and Solutions (GDPSS) and boost geospatial entrepreneurship.

1.5 Geospatial Sector in the country has tremendous potential in creating employment, development of industry and dissemination of knowledge while contributing in its social and economic progress. The contribution of geospatial sector to the Indian economy as per industry estimates is around INR 20,000 crore including INR 7000 crore in terms of export of geospatial services. India is the second most preferred

market for the global geospatial industry. India employs about 250,000 geospatial professionals, which includes about 50,000 professionals associated with government agencies. The Geospatial sector in India, however, have not realised its true potential and registered around 15% per annum growth whereas it has the potential to grow annually at 25% and more. It can contribute to the economy to the tune of INR 1,00,000 crore and employ nearly 10 lakh people in this field by 2029-2030 by making optimal use of business capabilities in both the government and private spheres. The Policy aims to provide an enabling environment in which the Indian Industry can flourish and minimize their dependence on foreign data and products, thereby contributing to an Atmanirbhar Bharat.

2. Vision and Goals

2.1 Vision

2.1.1 India will have a coherent national location data framework by 2030. The framework will assist the country to move towards e-economies, e-service and e-commerce and improve services to citizens.

2.1.2 Valuable Geospatial data that currently remains locked in silos will be easily accessible and combined securely to create new insights, new services and new businesses that are almost unimaginable today.

2.1.3 Increased Spatial capabilities and better Geospatial Readiness and Innovation will drive social, economic and environmental benefits across the country.

2.1.4 Geospatial industries will flourish in an enabling policy and legal framework. The benefits of Geospatial data will reach to the common citizens of the country.

2.2 Goals

2.2.1 Establish and strengthen an integrative platform for all digital data that have location dimension for easy access, sharing, use and reuse of such data.

2.2.2 Develop and strengthen national and sub-national arrangements in geospatial information management and related infrastructures with participation of government, industry, private , academia and civil society.

2.2.3 Efficient and effective use of standards-based high quality and reliable geospatial data/information services for achieving sustainable social, economic and environmental development goals

2.2.4 Improve availability and access to better location data across organisations and sectors to enable innovations and encourage enterprise.

2.2.5 Put in place an enabling policy and legal framework that will support liberalization of geospatial sector and democratization of data for enhanced commercialization with Value Added Services.

2.2.6 Enhance capabilities, skills and awareness to meet the future needs of the country.

3. Strategy and Approach

3.1 The focus of the Policy is to make geospatial technology and data as agents of transformation for achieving the **sustainable development goals**, bringing efficiency in all sectors of economy and instilling accountability and transparency at all levels of governance.

3.2 Atmanirbhar Bharat: The Policy recognizes the importance of locally available and locally relevant Maps and Geospatial Data in improved planning and management of resources and better serving the specific needs of the Indian population . The Policy aims to create level playing field for Government and Non-Government sectors and a providing a conducive environment to Indian Companies that will enable them to make India self-reliant in producing, using its own geospatial data /information and also compete with foreign companies in the global space .

3.3 IGIF: The Policy seeks to draw on international best practice, such as work by the United Nations Global Geospatial Information Management (UN-GGIM) Committee of Experts and the Integrated Geospatial Information Framework (IGIF), to strengthen national-level spatial information management arrangements across our country.

3.4 Policy & Legal: The Policy seeks to create conducive business atmosphere and facilitate ease of doing business for a prosperous geospatial sector economy by enhancing the effectiveness of the policies and their implementation. It aims to develop a robust policy and legal framework that is aligned with the emerging technologies and ground realities and which acts as enabler for effective management and exchange of geospatial information.

3.5 Financial : Recognizing the importance of financial partnerships, and identification of the investment needs and means of financing for delivering integrated geospatial information management - the policy will promote development of suitable financial plans and adoption of suitable business model by all stakeholder including government, the geospatial industry, private sector, academia – with an aim to maintain an integrated geospatial information management, as well as the longer-term investment program that enables government to respond to evolving societal, environmental and economic demands for geospatial data.

3.5 Data and ICT Infrastructure: Building on the existing Data Holdings and ICT Infrastructure, the Policy will promote establishment of a geospatial data infrastructure, which through well-defined custodianship-model and data-supply-chain, will enable best practice collection and management of geospatial data/information and availability of quality, real /near-real time data/information that will be appropriate to ensure cross sector and multidisciplinary collaboration.

3.6 Innovation: The Policy will support innovation, creation and incubation of ideas and start-up initiatives in the Geospatial Sector that will enable leapfrogging of outdated technologies and processes, bridging the geospatial digital divide and capitalizing on the opportunities due to continually evolving Technology .

3.7 Standards: The Policy will encourage open source software, open data and platforms. It will promote establishment and adoption of best practice standards and compliance mechanisms for enabling data and technology interoperability to deliver integrated geospatial information and location-based knowledge creation.

3.8 Capacity Development: The policy will encourage enduring capacity development and education programs so that the value and benefits of integrated geospatial information management is sustained for the longer term. It will also aim at the spread of geospatial thinking and education to the young minds from school level onwards wherein there would be standardisation and certification of courses and skill sets.

3.9 Partnerships: The policy will promote establishment of cross-sector and interdisciplinary cooperation, coordination and collaboration with all levels of government, the geospatial industry, private sector, academia, and the international community, as an important premise to developing and sustaining an enduring nationally integrated geospatial information framework .

3.10 User Engagement and Communication: Recognizing that stakeholder identification, user engagement and strategic communication are essential to successfully deliver integrated geospatial information management arrangements nationally and sub-nationally for sustainable social, economic and environmental development - the policy will promote effective communication and engagement to enhance and deepen participation and contributions from all stakeholders and at all levels.

3.11 Liberalization

3.11.1 There will be no requirement for prior approval, security clearance, license or any other restrictions on the collection, generation, preparation, dissemination, storage, publication, updating and/or digitization of Geospatial Data and Maps within the territory of India, within the thresh-holds that will be defined by Implementation Guidelines from time to time.

3.11.2 There shall however be a negative list of sensitive attributes that would require regulation before anyone can acquire and/or use such attribute data. DST will notify this list on its website along with stipulated regulations after consultation with departments concerned. This list will be specific to very sensitive attributes and care would be taken so as to minimize restrictions in order to boost the Ease of Doing Business. The assessment of sensitivity of Geospatial data and information for sharing would be done by weighing security/strategic considerations against their potential contribution to socio-economic development.

3.11.3 Self-certification will be used to convey adherence in this regard. However, this Policy shall not confer on any individual or an entity a right to physical access including through aerial/territorial water route to any establishment, installation or premises to which access is restricted by the Ministry/Department concerned as the owner of such premises. Further, the allied policies focussing on regulating data collection platforms shall focus only on the licensing, certification, registry and control of such platforms taking in due consideration national security and safety of the platforms.

3.12 Democratization of Data: All Geospatial Data produced using public funds, except the classified geospatial data collected by security/law enforcement agencies, shall be made easily accessible for scientific, economic and developmental purposes to all Indian Entities and without any restrictions on their use. Such access shall be given free of any charges to Government agencies and at fair and transparent pricing to others. For attributes in the negative lists, appropriate regulations will be laid down separately. The Government of India shall encourage crowd sourcing efforts to build Maps by allocating public funds towards these efforts as appropriate. The Survey of India (SoI) topographic data would be treated as common good and be made easily available.

4. Institutional Framework

4.1 The Government recognises the importance of geospatial information in governance of the country and is committed to create an institutional arrangement for geospatial information management to define responsibilities of authority, decision making and accountability through collaborative mechanisms by an inclusive approach and giving due importance to the private sector stakeholders including civil society and NGOs. This institutional arrangement would define responsibilities and work among the organisations that are involved in the management of geospatial information and transactions and will increase coordination among them for the development of the country.

4.2 The Government will constitute at the national level an authority named as the Geospatial Data Promotion and Development Committee (GDPDC) who shall be the apex national authority for formulating and implementing appropriate policies, strategies and programmes for promotion of activities related to collection, generation, preparation, dissemination, storage, publication, updating and/or digitization of Geospatial Data, along with associated Products, Solutions and Services. GDPDC would play a pivotal role in streamlining of all processes to integrate, produce and access Geospatial data and services. It would replace and subsume the functions and powers of National Spatial Data Committee (NSDC) constituted through GoI Resolution dated 13.06.2006 and Geospatial Data Promotion and Development Committee constituted vide DST Office Memorandum dated 04.03.2021. Its composition, membership and functions and power are given at Annexure I.

4.3 In the light of global experiences and developments since the GoI Resolution dated 13.06.2006 constituting the NSDI, the concept and functioning of NSDI will be appropriately modified by GDPDC in order to make the NSDI mechanism more robust, efficient and effective towards providing a level playing field to all the stakeholders of the Geospatial Ecosystem in the country. Besides the existing Executive Committee constituted vide GoI Resolution dated 13.06.2006 whose composition, powers and functions will be realigned with the changed concept and functioning of NSDI, DST may constitute additional sub-committee/s like Technological sub-committee, Legal sub-committee, Geospatial Industrial Development Board, Sub-committees for the purposes of compiling information or conducting research, etc consisting of domain experts from Government, Academia, Industry, Research, etc subject to availability of resources, for various purposes as may be considered important for meeting the objectives of GDPDC.

5. Strengthening Geospatial Infrastructures

5.1 Geospatial Data Infrastructure

5.1.1 Primary topics such as elevation, land, vegetation, deserts, mountains or marine boundaries for which coordinated development, maintenance and dissemination of geospatial data are to benefit the Centre and the State Governments and other stakeholders are considered as foundational or thematic data themes. These are representations of conceptual topics that adequately describe the digital geospatial information for the Nation. Each theme contains associated datasets (with attribute records and coordinates) that are documented, verifiable, and officially designated to meet recognized standards. A National Foundational or Thematic Data theme would contain one or more datasets of geographic information to be used in common, and from which various geospatial data, information, products, services, applications, and solutions may be derived. Based on experiences of implementation of geospatial infrastructures in different parts of the World, a standard set of National Foundational and Thematic Data Themes to be pursued under the Policy would be evolved by the GDPDC. It will be the responsibility of the GDPDC to periodically update the National Foundational or Thematic Data Themes as per the developmental or security-related priorities/ concerns of the country from time to time.

5.1.2 In order to coordinate the development, maintenance and dissemination of the National Foundational and Thematic Data Sets, GDPDC will designate one or more Central or State Level Partnering Agencies as Lead Agencies for each identified data theme. To strengthen the national geospatial information infrastructure, the Lead Agencies will establish the goals that support the preparation of the data sets on those identified themes. For realising this aspect they will collect and analyse information from users of geospatial data pertaining to their needs and incorporate it in their strategies relating to the preparation of the respective data sets and their availability. Duties and responsibilities of Lead Partnering Agencies and other operational aspects are given at Annexure II which shall be periodically reviewed by GDPDC.

5.1.3 The Government will make provisions for efficient access to the National Foundation and Thematic Geospatial Data by all stakeholders in the country. For providing access to quality Geospatial Data, Products, Services and Solutions to the stakeholders, GDPDC will operate a National Data Registry (NDR) and take measures to avoid, if any, duplicated collection or purchase of data towards establishing data supply chains and streamlining curated data delivery. NDR will be a commonly accessible set of registers/ catalogue of data sets and services, metadata, feature definitions, application schemas, code lists and persistent identifiers (correct identification of data) for streamlining provision of data supply chains for governance, businesses, and communities.

5.1.4 Using the geospatial data and metadata contained in the NDR and utilizing the data supply chains from the Central and State Level Partnering Agency Data Nodes, GDPDC will operate an electronic data querying and processing service, to be known as the Geo-platform for provision of consumer-oriented products, applications, services and solutions. The Geo-platform shall be available through the internet and other communication means, be accessible through a common interface and include connectivity to the NDR containing metadata for all geospatial data collected by the Partnering Agencies, directly or indirectly. Experience of agencies like NIC/ISRO/NSDI in establishing similar platforms would be studied to guide/support/facilitate the Partnering Agencies in setting up fit-for-future ICT Infrastructure for housing their data, connecting to the Central Node/Geo-platform and sharing them through NDR - as per stipulated standards and service mechanisms. The Geo-platform shall include access to all open geospatial data directly or indirectly collected by the Central and State Level Partnering Agencies free or on the basis of payment of fees as determined by the respective Partnering Agencies. It may include geospatial data from a source other than a Partnering Agency, if determined appropriate by GDPDC. It shall not store or serve any proprietary information or data/ metadata acquired under a license by any of the Central or State Government Partnering Agency, unless authorized by the data provider.

5.1.5 GDPDC will designate an agency to serve as the managing Partner Agency for developing and operating the NDR and the Geo-platform under the guidance and supervision of the GDPDC in relation to their scope, functionality, and performance. Although the NDR and the Geo-platform are intended to provide access to all National Foundation and Thematic Data Sets and other Central/State Government datasets, nothing in this Policy shall be construed to prevent any Partnering Agency from presenting, providing, or disseminating data that is specific to the functions of the Partnering Agency; or targeted to geo-information consumers that directly interface with the services, portals, or other mechanisms of the Partnering Agency.

5.1.6 GDPDC will develop and promulgate standards for National Foundation and Thematic Data Themes through the Bureau of Indian Standards (BIS), after consultation with a broad range of data users and providers and, to the maximum extent possible, use national and international standards adopted by voluntary and open standards consensus bodies. New standards will be established only to the extent that such standards do not

exist for adoption and use by the stakeholder communities. The standards should include the content standards for metadata for geospatial data and, to the maximum extent practicable, shall be consistent with international standards and protocols. The National Geospatial Frame (NGF) and the National Image Frame (NIF) shall be provided by the SoI and the National Remote Sensing Centre (NRSC), respectively, to facilitate exchange of geospatial data amongst stakeholders. GDPDC will periodically review and update standards in consultation with the BIS, as necessary, for the standards to remain current, relevant, and effective.

5.1.7 The Government would make advance sectoral engagements with the user industry to derive predictive analytics, modelling and simulations for sectoral applications, value-added knowledge and enterprise solutions. Further, independent sectoral geospatial strategies would be developed for better utilization of geospatial information for planning and delivery of projects. The sectoral strategies should also be in sync with each other, particularly because the nationally integrated programs transcend multiple sectors. If one sectoral strategy is restrictive it can have a broader impact on the entire national program. The strategies should outline broader sectoral benchmarks defining technology and data benchmarks/thresholds to ensure optimal utilization of the right technology for the right purpose. The Lead Agencies/ Departments would build their technological capabilities to evaluate and certify the completion of their projects.

5.2 Mapping Infrastructure

5.2.1 Liberalisation of the mapping industry and democratization of existing datasets will spur domestic innovation and enable Indian companies to compete in the global mapping ecosystem by leveraging modern geospatial technologies. Large scale maps of the entire country with regular updates are the need of the hour. Due to various restrictions, private sector participation has hitherto been limited. With the Government recently deregulating map making to encourage creation of quality maps, a new framework of self-certification for acquisition and production of geospatial data has been devised. It has been decided that DST guidelines will be the single point of reference for geospatial data and services. The need for continuous updation of existing data sets, requirement of manpower and technology and avoiding duplication in data acquisition/ processing make it imperative for the Government to collaborate with private and other agencies for improving geospatial information delivery. Towards this goal, this Policy shall replace the National Map Policy, 2005 which has outlived its utility. With these measures, all agencies and individuals, within Government or outside, producing geospatial data and information will be encouraged to collaborate in mutually beneficial manner for the benefit of the stakeholder community.

5.2.2 The demand of high resolution database would be met by SoI which would prepare the High Resolution National Topographic Database for the entire country and update it from time to time as stipulated by GDPDC. The database thus prepared or updated shall be catering to the needs of Foundation Data and shall be made available for general and specific use by citizens, businesses, academia, research, NGOs and

Government Agencies in addition to any other geospatial data, products, applications, solutions and services produced or developed by SoI.

5.2.3 The Government recognises the need for various advanced equipment required for surveying and mapping. Further, changing posts of technology mandate that better technology driven equipment be used for reliable creation and update of geospatial data. The Government would take measures to promote the use of ground based terrestrial surveying equipment including LIDAR, Ground Penetrating Radar and land and ship borne vehicle mounted sensors for survey and mapping activities in the country. The Government would simplify rules and regulations for operating aircraft and drones for the purposes of surveying.

5.2.4 SoI and other Government Agencies producing or owning Maps and Geospatial Data will take measures to simplify procedures, revise/abolish various forms/licenses and use modern techniques such as cloud, Open Application Programming Interfaces (APIs) and others to make its data sets accessible online in a useful format. For political Maps of India of any scale including national, state and other boundaries, SoI published maps or SoI digital boundary data are the standardized maps to be used, which shall be made easily and freely downloadable and their digital display and printing permissible by all. Others may publish or derive maps that adhere to these basic standardized maps from SoI.

5.3 Earth Observation Infrastructure

5.3.1 A plan will be formulated for building high-resolution satellite constellations to provide data with high revisit, establishing ground infrastructure for data acquisition, processing, generation of data products and reliable dissemination mechanism, for constellation of microwave Synthetic Aperture Radar (SAR), imaging scatterometers, imaging microwave radiometers, altimeters, high resolution panchromatic, multispectral and hyperspectral remote sensing data with quick turn-around-time. Production and dissemination of such data sets will be harmonized with the National Remote Sensing Data Policy.

5.4 Sub-surface and Hydrographic Infrastructure

5.4.1 The subsurface or underground is a complex environment which holds the vital functions of water and energy supply, communication systems, sewers and drainage. With advancement in technologies, miniaturization of sensors and speed of urbanization and infrastructure in country, a concrete strategy for mapping the subsurface infrastructure in cities in 3D format and collating or updating data in cases where it has already been done once will be developed.

5.4.2 With the growing importance of Inland Water Resources and the continued emphasis being laid on nurturing the Blue Economy for exploitation of marine resources, there is a need to provide necessary data underpinnings for their sustainable management. Fisheries, deep sea mining, and offshore oil and gas make up a large section of India's blue economy. Bathymetric Geospatial Data would be crucial for

attainment of a flourishing and vibrant blue economy for the country and would require active participation of private sector in acquisition and their use apart from traditional agencies like Indian Navy, etc. Such resources in the streams, ponds, lakes, rivers, and seas on and around the shore-lines are required to be surveyed and mapped in addition to the bathymetry of the under-water surfaces. GDPDC will facilitate the identification of such features and strategies for the development and maintenance of a suitable hydrographic data infrastructure.

5.5. Resilient Positioning, Navigation and Timing (PNT) Infrastructure

5.5.1 The need for precise location in any data economy cannot be underestimated. The world is increasingly using and relying on Global Positioning Systems (GPS) and GNSS (Global Navigation Satellite System) service and any disruption in availability, reliability, resilience and integrity of GPS or GNSS could potentially weaken critical infrastructures, which at present sustain national security, citizen services, business operations, and public safety. India has established the Navic system using a constellation of Indian Regional Navigation Satellite System. There is an urgent requirement to establish nationwide Global Navigation Satellite Systems (GNSS) and Continuously Operating Reference Stations (CORS) infrastructure network. It will enable a variety of scientific, civil, defense and commercial applications across the Indian landscape. A resilient PNT infrastructure based on Indian Regional Navigation Satellite System, duly augmented by Terrestrial PNT systems will provide stronger and accurate positional information and higher level of resilience at a lower cost. As more than 80% of human activities have a location element, an open and robust PNT service will enable uniform, equitable and coordinated access to locational information countrywide. It is also beneficial that resilient PNT systems would be developed exclusively for a series of varied applications– including urban development, infrastructure management, defense, intelligence and disaster management, among many others. In order to encourage the penetration of usage of Indian Remote Navigation Satellite System (IRNSS) and Indian Space Based Augmentation Service, the implementation and usage of IRNSS and GAGAN in the larger domain of public services will be encouraged.

5.5.2 The Government will ensure that information generated through ground truthing/verification, access to Indian ground stations and augmentation services for real time positioning (Continuously Operating Reference Stations (CORS), etc.) and their data shall be made available without any restrictions and with the ease of access to Indian Entities only. Terrestrial Mobile Mapping survey, 3D Laser/Photo Scanning and surveying in Indian territorial waters shall be permitted only for Indian Entities irrespective of accuracy.

5.6. National Digital Twin

5.6.1 The Digital Twin is a virtual replica of a physical asset, process or service that lies at the core of new digital revolution. National Digital Twin would be an ecosystem of smart, dynamic, connected Digital Twins, enabled by secure and interoperable data

sharing across varied organizational boundaries and sectors, to facilitate better decision-making across social and economic infrastructure. National Digital Twin strategy, which is geospatially aware and built on a dynamic geospatial infrastructure, would be devised to provide for the following:

- Reliable, continuously updated and maintained datasets for both ‘above the surface’ and ‘subsurface’ as per attributes required;
- Databases to be easily accessible and usable;
- Data interoperability and data standards to be maintained; and
- Precise positioning data from GNSS systems, or resilient PNT systems and IoT sensors.

5.7. Geospatial Knowledge Infrastructure (GKI)

5.7.1 Government will have an enabling role in delivering GKI, as part of wider integrated digital policy, providing authoritative foundation data to support and anchor decisions, whether as a trusted Digital Twin or to improve Artificial Intelligence (AI) models. Partnerships with industry are essential as industry is leading many aspects of knowledge creation and should partner with government to deliver a GKI for the benefit of all.

5.7.2 This dynamic geospatial infrastructure – GKI, focuses on ‘data provision’ to ‘knowledge creation’ and foresight can be enabled by fundamental geospatial data, its integration with 4IR technologies and the growing digital infrastructure (Web, Cloud, Networks, etc). It encompasses governance, technology, data and people, at the heart of “knowledge co-creation” in the wider digital ecosystem. This will help build a digital economy and society embracing knowledge and automation delivering value to future economy and society.

5.7.3 It is important for inclusive development of the society that latest technologies like Big Data, AI, advanced robotics, automation, the web, and smart technologies which have the capacity to deliver societal good to the people are embraced and adopted. They are necessary as they generate value and the digital ecosystem needs integration with many varied data sources, including real-time, improved analytical capabilities so that one can make a move from data to knowledge services, to address real issues on the ground. This will have transformational effects and would pave the way for development of the country.

5.7.4 The data is emerging as an ever-growing commodity in this new age of technology. It is not the data that the end user is seeking, rather it is the knowledge that could be derived out of it. Meaningful derivative of data in the form of knowledge would make the administrative and policy decision making more meaningful and beneficial. It is the embedded value, inherent in the vast amounts of data and information that needs extraction in an effective and efficient way to turn data into knowledge. It is necessary that such knowledge should be available in a timeframe with specific reference of associated coordinates in a simple trusted language.

5.7.5 Geospatial Knowledge Infrastructure (GKI) provides the critical geospatial component to knowledge and automation. It integrates geospatial concepts, technologies and information with societal and technological change as part of the much wider digital ecosystem. The Government will create the Geospatial Knowledge Infrastructure which would be user centric, decentralised, real-time, predictive, innovative and dynamic, having focus on the issue of assigning meaning and knowledge through collaborative measures with private participants in industry and other stakeholders. To encourage innovations the Government will create enabling environment in the digital industry to collaborate in the domain of networks, data resources, and also to identify the core areas where the problems are persisting and to eradicate them by innovative 4IR technologies and also to create scope of commercialisation to support the businesses.

6. Geospatial Education and Skill Development

6.1.1 Geospatial education is imparted in around 200 universities/institutions at different levels in colleges, universities, Industrial Training Institutes and National Skill Training Institutes. The Government realizes the importance of Geospatial Science in governance, planning and decision-making processes. However, there is lack of standardization of Geospatial curriculum with inadequate emphasis on the fundamentals of Geospatial Science. A barrier in the form of low accessibility of geospatial data for R&D exists besides geospatial thinking is not integrated in the innovation system and absorption capacity for geospatial knowledge is poor.

6.1.2 With the implementation of the Policy, the field of surveying and mapping will see a sharp rise, creating job opportunities for assistant surveyors, surveyors, data processors, etc. To fill this resource gap, Department of Science and Technology and Survey of India will work with the National Skill Development Council to develop a Geospatial Skill Council so that such training programs/ modules can be executed by various academic institutions and to serving officers in Central and State Government Departments across the country, which are duly accredited and up to the expectations from the Industry.

6.1.3 Geospatial professionals will be required at three hierarchical levels based on the depth of knowledge required, type of knowledge imparted and the professional level of the students intended:

(i) Geospatial skilled workforce – a category of large number of human resources required to form the “pyramid-base” and who will be the largest work-force in the domain equipped with skills of surveying/mapping/operating GIS etc. This requirement will be met through special training programmes in Industrial Training Institutes (ITIs), Polytechnics, Technical Institutions and the Private Industry.

(ii) Technical Geospatial Professionals – are a large number of geospatial professionals who have specific training and knowledge for identified tasks – they form the “pyramid middle”. They are the graduates with a specific 9-12 months’ training in Geospatial Technology for geospatial data acquisition, processing, dissemination and analysis etc. Requirement of this nature will be met through specialised training

courses by private industry and technical institutions in the country, like Indian Institute of Remote Sensing (IIRS) and National Institute for Geo-Informatics Science & Technology (NIGST).

(iii) A good number of geospatial experts, with a graduate/master's degree in Geospatial Technology/Science and/or experts having adequate on-the-job experience in geo-spatial domain, form the "pyramid top" of the workforce. They will be the project managers/experts who would be capable of handling/ managing geospatial projects independently and contributing to their success.

6.1.4 The Policy will encourage development of international standard Geospatial Science education programs from the schools till the level of the universities. Cutting-edge research in Geospatial Science and Technology for indigenous capacity building and identification of new areas of application and solution will be promoted. Research in emerging technologies involving not just 'sight' but also other human senses, such as 'hearing', 'touch', 'gestures', 'gazing', and other body movements that would allow humans to effectively interact with geospatial information in more immediate and "natural" ways will be encouraged. The true value of geospatial technology, data and information would be unleashed when geospatial thinking could be inculcated among citizens, especially the students, across the complete value chain of the geospatial knowledge generation.

6.1.5 There is a need to establish an Institute especially for Geospatial Technology for developing and nurturing of professionals who would be well versed in geospatial and allied technologies. The field of Geospatial is interdisciplinary combining various technologies and affecting diverse fields. NIGST will be developed into a Centre of Excellence and eventually a full-fledged university providing specialized courses in the domain of Geospatial Science & Technology.

6.1.6 Strong industry linkages will be used for both, providing training inputs and placement activities to complete the training lifecycle. Online courses will be made commonly available. Through active and intrinsic industry partnerships a sustainable model will be developed. This aspect will enhance the credibility of the training programmes and provide an avenue to the trainees for a greater exposure to industry. Tie-ups with allied industries will be established to increase the placement spectrum of the trained youth towards addressing the needs of both the job-seekers and job-providers holistically.

6.2 Surveyors' Registration

6.2.1 Surveying, being a specialised task, requires knowledge as well as skill. However, at present, there has been no mechanism in the country to certify the required surveying skills leading to availability of human resources with deficient quality, even at times affecting the survey operations and resulting in failure of projects. However, mechanisms are in place to maintain the quality of other professions through various acts like Advocates Act, Indian Medical Council Act and Chartered Accountant Act etc. In order to maintain the quality of survey professionals, industry driven benchmark and

certification standards will be developed, adopted, and promoted to ensure quality of training, competitiveness, updating the knowledge and skills of the survey professionals with advancement in technologies.

7. Geospatial Business

7.1 Use of Geospatial Data, Products, Services and Solutions

7.1.1 Geospatial Data, Products, Services and Solutions are multidisciplinary in nature and important in the context of national development. The Policy will promote different aspects of usage of GDPSS to empower citizens by providing geospatial data as per their requirement of content, scale, frequency and spatial resolution thus facilitating creation, management, access and availability of quality products, services and solutions.

7.1.2 The policy will be applicable to geospatial data-based products, solutions and services offered by government agencies, autonomous bodies, academic and research institutions, private organizations, NGOs and individuals.

7.1.3 All GDPSS produced using public funds provided by Government through Ministries/ Departments/ Organizations, except the classified GDPSS created by security/law enforcement agencies, shall be made easily accessible for scientific, economic and developmental purposes to all Indian Entities and without any restrictions on their use. Such access shall be given free of any charges to Government agencies and at fair and transparent pricing to others. For attributes in the negative lists, appropriate regulations will be laid down.

7.2. Geospatial Enterprise

7.2.1 The total worth of the Geospatial Sector in Indian economy is projected to grow to nearly one lakh crore by year 2029-30 as per industry estimates. A level playing field will be provided for government, non-government, academic, research and private sectors for ease of doing business and pro-actively engaging them in various spheres of geospatial domain for employment generation and contribution to the national economy. Proactive steps will be taken for stimulating geospatial technological innovations and supporting the growth and development of the geospatial industry in the country.

7.2.2 There are enormous employment generation opportunities in India for services such as surveying, map digitization, content development, APIs development, data analysis, etc. However, there is a dearth of trained workforce in the Indian geospatial industry. Rapid technology advancements have resulted in those who have obtained primary training are not equipped to operate latest tools. The current workforce in geospatial industry is not equipped enough to train the upcoming generations in emerging technologies like AI, Machine Learning, etc. With the removal of restrictions and deregulation of geospatial data and services, and the Policy framework being laid out here, it is expected that demand and supply of skilled human resource would span

out, driven by market forces, and there would be a spurt in availability of qualified professionals and their absorption by the industry.

7.2.3 To increase self-reliance in the domain of hardware and software required for the geospatial data and technology, the Government would bring schemes like Production Linked Incentive (PLI) to fulfil its 'Make In India' vision. This would save foreign currency and would increase the localization of manufacturing of the required hardware and software which would further support other ancillary industries in the country. It will increase the job opportunities and usage of the technology paving for the growth of the economy. Open source software and platforms will be preferred for public infrastructure of Geospatial data and services.

7.2.4 Any agency or individual, whether in Government or outside, shall be free to process the acquired geospatial data, build applications and develop solutions in relation to such data and use such data products, applications, solutions, etc. by way of selling, distributing, sharing, swapping, dissemination, publication, deprecation and destruction. Government may stipulate regulations prescribing thresholds for high accuracy data to be allowed only to Indian entities. There may be restrictions on very sensitive attributes, but extreme care would be taken not to jeopardize ease of doing business.

7.2.5 Geospatial technology integration capacity across government departments to foster advance adoption levels as proposed under infrastructure section above will promote innovation. Skill development initiatives in partnership with government, industry, academia and research institutions and developing incubation models to support geospatial entrepreneurship across various sectors will promote Geospatial start-ups in the country. An integrated geospatial sector development framework for facilitating institutional and policy environment would expand geospatial market opportunities across industrial value chain. To create synergies and holistic development, the government would establish Geospatial Technology Parks taking into account feedbacks of Department of Science and Technology, Department of Space, Ministry of Education, Department of Skill Development, Department of Land Resources, etc. The Technology Parks will further advance the geospatial industry in the country, providing businesses with the required facilities to innovate and invent at one place.

7.2.6 The geospatial industry is recognized as a critical industry to achieve development and advance national security. Under the aegis of GDPDC, an advisory body will be created named as Geospatial Industrial Development Board which would comprise of members from the Departments of Commerce and Industry, Science and Technology, and Revenue among others. It would be assisted by a panel of members from the geospatial industry who would provide valuable inputs to the Board for advancing the growth of the Indian geospatial entities. The Board would produce a report on performance of Geospatial entities in India annually, in terms of their deliveries, compliance to guidelines as well as development of their capability. They would recommend guidelines and norms for empanelment of companies to undertake the projects of national development and security.

7.2.7 The Geospatial Industry in India is in its nascent stage and the Indian companies in this field have not yet assumed large proportions. Therefore, the small and medium size companies need assistance for growth. The national projects have inherently higher project cost beyond the sustainability of the small and medium size companies at an individual level. Therefore, from the perspective of inclusive growth, the small and medium size companies would be allowed to bid for national projects by forming reliable and formidable consortiums. The projects of national importance particularly related to national security, would be awarded preferably to Indian Entities or a consortium of Indian and Foreign Entities. To keep businesses competitive, the Government would ensure that Foreign Entities would also be allowed to bid in big projects after due security clearances along with Indian companies or having them as partners in consortium mode of bidding. Geospatial projects of value of over INR 100 crores will have an in built guideline for technology research and skill upgradation of Indian companies.

7.2.8 The Government would develop a mechanism to promote the services of IRNSS commercially, as this would encourage the electronic device manufacturers to develop chipsets, firmware and software for devices capable of receiving and processing IRNSS data. This would further create job opportunities and make the country self-reliant in terms of manufacturing devices/ equipment for acquiring and processing positioning data.

7.2.9 The Government would establish Geospatial Incubation Centres or Geospatial Industry Accelerators, in association with the Department of Science and Technology, Survey of India, and Department of Space and would also cooperate with private geospatial industry participants, user sectors, academia and the civil society to promote open innovation in the country. The Government will consider providing start-ups with support funding and access to geospatial expertise, and most importantly, access to geospatial data after carefully vetting their proposals and its viability to foster a vibrant geospatial ecosystem. The Government would facilitate long-term **Contract R&D** to enable the geospatial industry to build next-generation geospatial technologies to strengthen the geospatial infrastructure in the country.

7.2.10 The Indian companies in geospatial field earn a large part of their revenue from the export of geospatial data processing services. The opening up of the Geospatial market in India would help it in growing rapidly thereby creating a large skilled manpower base in the country which would help India to become a global hub for geospatial services. Various Departments of the Government would support and enhance the capacity of Indian geospatial industry with appropriate promotional programmes. It is expected that private businesses will seize the opportunity thrown up by liberalization of Geospatial Sector in the country to gradually move away from dependence on government projects and supports and to exploit the immense value that can be unlocked by commodification of high accuracy, real time data that will be easily accessible from various Agencies. The Government do not favour any restrictions on export of Maps/Geospatial Data of spatial accuracy/value up to prescribed threshold value except for attributes in the negative lists.

7.2.11 To give further impetus to the domestic geospatial companies, the Government would consider making geospatial infrastructure and capacity development an important element of strategic partnerships and sustainable development while providing aid and support to developing and friendly countries as part of the Indian international aid programs.

7.3 Public-Private Partnerships

7.3.1 India's development in different areas would require huge volumes of spatial data and analysis to enhance program efficiency and coordination among projects and the Government would require constant support of the private capital and innovations in achieving its development goals. The National Geospatial Policy would increase the collaborative efforts between the public and private sector in reducing duplication in data collection. The government and private organisations together would decide on projects of data acquisition, data collection efforts and subsequently share data acquisition costs in an organised manner. There exists a large amount of geospatial data in private domain which could be shared with the Government. The data collected by the private industry and civil society could be registered in the National Data Registry and served through the Geo-Portal, and an appropriate business model could be devised after due consultation with all the stakeholders.

7.3.2 The Government would give emphasis on roping in private sector in PPP mode for greater benefit of the country. The private sector brings with it technology, innovation, human and financial capital, efficiency and scalability. The Government recognises the importance of PPPs for developing the next generation geospatial infrastructure as a forward-looking approach towards industrialization and commercialization of geospatial value and transforming the country on a strong note. The GDPDC and Lead Agencies may use private sector entities of India for the provision of geospatial data and services to the maximum extent subject to the security concerns and negative lists as specified from time to time. The GDPDC would actively consider models of Build-Operate-Transfer (BOT) and Build-Operate-Lease-Transfer (BOLT) in this field. The scope of PPPs may include everything except the negative lists. The Government would use a collaborative and coordinated approach to geospatial adoption which will hasten the development and lead to efficient and effective realisation of national goals.

8. Making it happen

8.1 The core of Integrated Geospatial Information Infrastructure will be cooperation and collaboration among various stakeholders. Concerted efforts by all the Partnering Agencies would be the underpinning premise for availability of geospatial data for its use and access by decision makers and content developers. The infrastructure to be developed and provided for this collaborative framework, though guided by the Policy and GDPDC, will hinge upon active participation and fulfillment of responsibilities by the Partnering Agencies and other stakeholders like business and academia. Industry and Academia, including Research will be pivotal to fulfill the objectives of the Policy.

8.2 An audit of the compliance of the Partnering Agencies towards their obligations and responsibilities as envisaged under the Policy and the standards for geospatial data, including metadata may be carried out on the recommendations of the GDPDC. The GDPDC may bring findings of such audits to the notice of the Competent Authority for their consideration for release of budgetary support to the concerned Agencies for the acquisition and provision of the foundation/ thematic/ application data sets.

8.3 The GDPDC as constituted by the Government will be the authority for implementation of the Policy, its various provisions, formulation of guidelines and steering the course of the development of Geospatial Sector in the Country. DST shall be the Nodal Department of the Government for the Policy.

8.4 Appropriate legislation to enforce different provisions of the Policy will be brought out in due course. However, existing laws like Indian Penal Code, IT Act, Corporate laws, data and privacy laws, etc will be applicable as required.

8.5 Budgetary provisions and appropriate support for Departments/organizations by Government would be necessary for effective implementation of the Policy and use and development of Geospatial Data, Products, Solutions and Services by various stakeholders.

Annexure I

Geospatial Data Promotion and Development Committee (GDPDC)

1.1 Composition: GDPDC will have representatives from different concerned Departments/Ministries of the Government, Industry, Academia and the Civil Society as given below:

1.1.1

1.	Principal Scientific Adviser, GoI	Chairperson
2.	Secretary, Department of Science & Technology, GoI	Vice-Chairperson
3.	Defence Secretary or his nominee*, GoI	Member
4.	Home Secretary or his nominee*, GoI	Member
5.	Secretary or his nominee*, Ministry of Electronics and Information Technology, GoI	Member
6.	Secretary or his nominee*, Department for Promotion of Industry and Internal Trade, GoI	Member

7.	Secretary or his nominee*, Department of Water Resources, River Development and Ganga Rejuvenation, GoI	Member
8.	Secretary or his nominee*, Department of Land Resources, GoI	Member
9.	Surveyor General of India, Survey of India	Member
10.	Joint Secretary (SMP), Department of Science & Technology, GoI	Member Secretary

* The nominated members should not be below the rank of Joint Secretary of the concerned Department/ Ministry.

1.1.2 On and from such date and term as may be decided by the Minister of Science and Technology, DST can appoint the following additional members:

(i) Maximum of 3 (Three) officials of Joint Secretary rank and above of the Government of India or State Government departments, whose activities are related to the usage, promotion and development of Geospatial data/ Information;

(ii) Maximum of 3 (Three) Experts from Industry, Research Institutions and Academia having experience and qualifications in the field related to promotion and development of National Geospatial Data Information Frame work-Geographical Information System (GIS), ground-based survey techniques, photogrammetry using manned/unmanned aerial vehicles, terrestrial vehicle mounted Mobile Mapping System, LIDAR, RADAR Interferometry, satellite-based remote sensing, mobile phone sensors and other techniques, Spatial and Non-spatial databases, Information and Communication Technology, Business Management, Law and other related fields;

1.3 Functions and Powers:

The GDPDC shall be the apex national authority for formulating and implementing appropriate policies, strategies and programmes for promotion of activities related to collection, generation, preparation, dissemination, storage, publication, updating and/or digitization of geospatial data, along with associated products, solutions and services, in the country. It shall take measures to foster innovation, provide leadership and coordination, and promote standards necessary to strengthen geospatial information management so that they can be used to find sustainable solutions to emerging development and security challenges facing the nation.

The Committee shall:

(i) Lead the establishment and management of an Integrated Geospatial Information Infrastructure to support on-demand provision of geospatial data/ information/ knowledge services towards guiding development and security-related strategies at different levels of the governance hierarchy;

(ii) Determine and decide the geospatial data needs of the country and require the

creation and collection of such data to meet those needs;

(iii) Establish a mechanism for active engagement of all the stake holders including Governments, Industry, Academia, NGOs for development of standards, information infrastructure including ICT frameworks and innovation;

(iv) Periodically review and update National Foundational and Thematic Data Themes;

(v) Designate one or more Central or State Level Partnering Agencies as Lead Agencies for managing each identified National Foundational or Thematic Data Theme;

(vi) Periodically review the duties and responsibilities of the Lead Partnering Agencies and their operational aspects as per the National Geospatial Policy;

(vii) Objectively assess each Lead Partnering Agency on the basis of its annual performance report submitted to the Committee to determine its progress and achievements in delivering the required data service;

(viii) Recommend an audit of compliance and standards of geospatial data and services of Partnering Agencies towards their obligations and responsibilities, wherever deemed appropriate and bring it to the notice of the Competent Authority;

(ix) Operate the National Data Registry and the Geo-Platform with the help of an identified managing Partnering Agency and lay appropriate rules and procedures for the upscaling and maintenance of its servers, networks and accessibility to their service;

(x) Develop, promulgate, and review the standards for the National Foundation and Thematic Data Themes through the Bureau of Indian Standards (BIS) and their adoption by the Partnering Agencies;

(xi) Support and promote the infrastructure of networks, systems, services, and standards that provide a digital representation of the Earth to users for various applications;

(xii) Promote and enable investment in the Geospatial Sector and create a conducive environment that encourages competitive excellence in providing geospatial data, applications, services and solutions ;

(xiii) Promote the development of human resources in the Geospatial Sector;

(xiv) Decide on issues arising out of finalization of negative attribute lists and frame regulations on those attributes;

(xv) Assess the adequacy of existing legal and regulatory frameworks to deal with enforcement of provisions of the National Geospatial Policy and suggest strategies for overcoming shortcomings, if any, in their enforcement;

(xvi) Coordinate with international organizations having a stake in the development and utilisation of the National or Global Geospatial Information Infrastructures to address challenges in various domains of development and security;

(xvii) Aid and advice the Central Government on matters related to the Policy;

(xviii) Publish articles or reports related to Integrated Geospatial Information Infrastructure and business growth;

(xix) To do all such acts as may be necessary, beneficial or desirable for the promotion and achievement of objectives of the National Geospatial Policy;

1.4 Rules and Procedure

GDPDC shall have the power to frame rules and procedures for the conduct of its business. In the absence of Principal Scientific Adviser, Secretary, Department of Science & Technology, GoI shall preside over the Committee meetings. The Committee shall meet at such time and place as fixed by the Chairperson.

Annexure II

1. National Foundation and Thematic Data Themes

1.1 It will be the duty and responsibility of every Lead Partnering Agency (ies) to ensure proper management and coordination of the data, to provide enabling environment to support resources (including technology and personnel), related services and products of every identified National Foundation or Thematic Data theme. Each Agency will assist the GDPDC in completing its assigned task with respect to a National Foundation or Thematic Data Theme.

1.2 The Lead Agency will provide leadership and facilitate the development and implementation of geospatial data standards for the National Foundation/ Thematic Data Theme. Adequate care will be taken by the Agency to create and maintain quality and accuracy standards for the data meant for the National Foundation/ Thematic Data Theme. The Lead Agency shall have the duty and responsibility to (i) assess existing standards; (ii) identify required/ anticipated data standards; and (iii) develop a clear and workable plan to define and implement the needed standards taking into account relevant community and international practices and its effect on the current geospatial infrastructure in the country.

1.3 The Lead Agencies will be proactive and facilitate the development and implementation of a plan for nationwide population of the National Foundation and Thematic Data themes. It shall:

(i) include developing partnership programs with State Governments, institutions of higher education, private sector entities, other Central Government Agencies, and local governments;

(ii) meet the needs of users of geospatial data and the integrated geospatial information infrastructure;

(iii) address human and financial resource needs;

(iv) identify needs relating to standards, metadata for geospatial data within the National Foundation/ Thematic Data theme, registration to the National Data Registry (NDR) and provision of services through the Geo-Platform;

(v) expedite the development of necessary National Foundation/ Thematic Data themes; and

(vi) identify and publish proven practices for the use and application of geospatial data of the Lead Agency.

1.4 A dedicated geospatial leadership at the sectoral level is essential for proper utilisation of geospatial technology and ensuring delivery of better results. The Lead Agencies as part of managing the National Foundation/ Thematic Data Theme will designate a point of contact through a Geospatial Cell/ Unit within the Agencies who shall be responsible for developing, maintaining, coordination relating to, and disseminating data using the NDR and the Geo-Platform service.

1.5 The Geospatial Cell/Unit of each Lead Agency/ Department/ Ministry will create identifiable sectoral benchmarks defining the required technology and requisite data benchmarks for optimal utilisation of the technology and resources as per the provisions of this Policy and the accuracy thresholds specified in the Approved Guidelines.. These benchmarks should be used by the Geospatial Cell/Unit to validate its level of accuracy associated with its activities on the sectoral geospatial data acquisition and production of related maps and services.. GDPDC in consultation with the Lead Agency will devise suitable technical specifications and procedures for evaluation and certification of data and maps generated by the Agency through its mandate or under the completed projects.

1.6 The Lead Agency will submit to the GDPDC an annual performance report that documents the activities relating to and implementation of the data theme, including progress in achieving the requirements; and comments, as appropriate.

1.7 The Lead Agencies will publish index maps or comparable graphics online (in accordance with the mapping conventions specified by the GDPDC) showing the extent and status of coverage of the publication of the data theme (s) for which the Partnering Agency is mandated with the responsibility as a Lead Agency.

1.8 The Lead Agencies will encourage individuals and entities that are a source of geospatial data or related metadata for the data theme(s) to provide access to such data/ metadata sets through the NDR and the Geo-Platform service. They will coordinate with the managing Partnering Agency of the NDR and the Geo-Platform for accomplishing this task.

2. Sectoral Geospatial Infrastructures and Partnering Agency Responsibilities

2.1 Each National and State Level Partnering Agency will prepare, maintain, publish, and implement a strategy for advancing geographic information and related geospatial data activities appropriate to the mission of the agency in support of the activities and plans of GDPDC. It will collect, maintain, disseminate, and preserve geospatial data such that the resulting data, information, products, applications, services, and solutions can be readily shared with other Central and State Government users and stakeholders. It will register or publish its standards-based data sets, metadata and services in the

National Data Registry along with related metadata to facilitate quick identification, search, discovery, access and ensure supply and delivery through the Geo-Platform. It will ensure delivery and certify the shared foundational/thematic data quality.

2.2 An independent sectoral geospatial strategy needs to be developed by sectoral ministries and departments for better utilization of geospatial information for planning and delivery of projects to ensure social and inclusive growth. The sectoral strategies should be in synchronisation with other departments, particularly because the national integrated program of geospatial data management transcends multiple sectors of data acquisition and sharing in various domains of activities. If one sectoral strategy is restrictive, its negative impact could adversely affect the achievement of objectives of the entire national program.

2.3 Each Partnering Agency will coordinate and work in partnership with other Central/ State Government Agencies, Panchayati Raj Institutions, Urban Local Bodies, institutions of higher education and the private sector to efficiently and cost effectively collect geospatial data. It will promote the integration of geospatial data from all sources and will allocate resources to fulfil the responsibilities of effective geospatial data collection, production, and stewardship with regard to its own activities, and as necessary to support the activities of GDPDC. Each will integrate, maintain, disseminate and preserve geospatial data, building upon existing data sets to the extent possible. Each will search all sources, including the NDR, to determine if existing Central/ State Government or private geospatial data meets the needs of the Agency before expending funds for collection of additional geospatial data. Each will use geospatial information to make Central/State Government geospatial information and services more useful to the stakeholders, enhance operations, support decision making and promote ease of doing businesses. .

2.4 Each will participate in determining, when applicable, the content of the Negative Attributes and whether the sharable data by the Agency can contribute to and become a part of the NDR of GDPDC. Each will protect personal privacy and maintain confidentiality in accordance with the prevailing policies, acts, rules & regulations. Each will appoint a Nodal Officer to coordinate with the lead Partnering Agencies for collection, acquisition, maintenance, and dissemination of the foundational/ thematic data sets used by the Partnering Agency. Each will, to the maximum extent practicable, ensure that a person/ entity/ agency receiving Central/ State Government funds for geospatial data collection provides high-quality data towards meeting the underlying investment objectives.

2.5 Each Partnering Agency shall submit to GDPDC an Annual Action Plan and Report regarding achievements of the Partnering Agency in preparing and implementing the strategy as decided by it in support of the strategic plan for developing the integrated geospatial information infrastructure in the country.