

## **DEPARTMENT OF SCIENCE AND TECHNOLOGY AND WASTE MANAGEMENT**

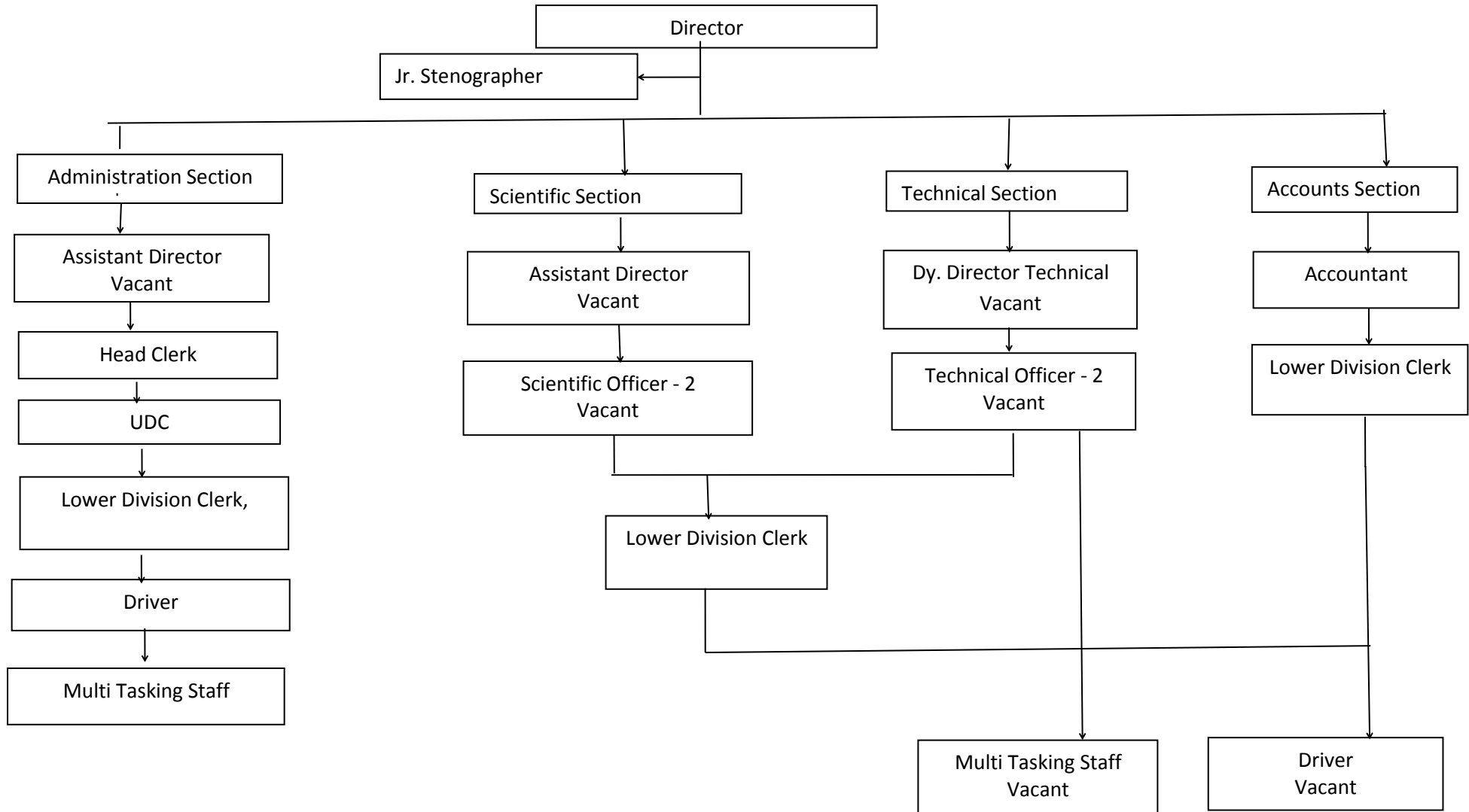
### **DRAFT MATERIAL FOR ANNUAL ADMINISTRATION REPORT 2019-20**

#### **1. Introduction:**

The Department of Science and Technology and Waste Management (DS&T&WM) was established with the aim to popularize Science and Technology in the State by implementing different activities, programmes, schemes and also for setting up of various Common Waste Management Facilities. It also aims at inculcation of scientific temperament in the minds of young students through activities and programmes in the schools, colleges and other educational institutions. To achieve the mandate Science and technology based activities/schemes are implemented by the Department with the help of line departments, educational institutions, NGOs, other Research institutions etc. Further, DS&T&WM is mandated with management and treatment of all types of wastes generated in the State, scientifically.

2. The following is the Organizational set-up at the Head Quarters with total sanctioned strength of 19 staff.

# Organization chart of Department of Science and Technology



**A chart showing all the other authorities / autonomous bodies under administrative control of Department of S & T is enclosed as Annexure.**

### **3. Functions and duties carried out by the Department**

- (i) Promotion of appropriate S&T research projects relevant to the needs of the State through NGOs, Other Line Departments, Educational Institution by providing grant-in-aid.
- (ii) Implementation of Science popularization drives through various statutory and non statutory agencies, local authorities etc.
- (iii) Organization and Promotion of Scientific and Technology based exhibition/seminars/workshops in different parts of the State and participation in such events in India and Abroad.
- (iv) Publication of different papers, brochures, books etc. relevant to S&T subject.
- (v) Application of Remote Sensing Technology for Management of Natural Resources.
- (vi) Management and Treatment of Solid Waste and Other types of Wastes generated in the State by applying advanced technology
- (vii) Administration of various statutory and advisory bodies on S&T, viz. Goa State Council for Science and Technology, Goa State Innovation Council, Goa Waste Management Corporation.

### **4. Acts and Rules implemented by the Department and its affiliated Autonomous bodies**

#### **I. Central Act**

- i. The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008;
- ii. The Academy of Scientific and Innovative Research Act, 2011;
- iii. Plastic Waste Management Rules , 2016;
- iv. The Bio-medical Waste (Management and Handling) Rules, 2016.
- v. E-Waste (Management) Rules, 2016.
- vi. Solid Waste Management Rules, 2016.

#### **II State Acts....**

- i. The Goa Cess on Products and Substances causing Pollution (Green Cess) Act, 2013;
- ii. The Goa Waste Management Corporation Act, 2016.

### **5. Physical Achievements of the Department:**

**The major physical achievement in brief of the department in the year 2019-20 are as follows:**

1. Financial assistance have been sanctioned to various educational institutions / NGOs in the State such as National Institute of Oceanography, Dona Paula, Goa, National Institute of Malaria, Campal - Panaji, Don Bosco College of Engineering, Fatorda, Padre Conceicao College, Verna, P.E.S. College, Ponda, Goa college of pharmacy, Panaji, Shree Balram Education Society, Canacona, Shree Rayeshwar Institute of Engineering and Information Technology, etc. for organization of science exhibitions/workshops/seminars/science awareness programmes. Also financial grants have been sanctioned to various research institutions and academic

institutions, Autonomous bodies, NGOs, University such as Parvatibai Chowgule College, Margao, Don Bosco College of Engineering, Fatorda, P.E.S. College, Ponda, Padre Conceicao College, Verna, St. Joseph Vaz College, Cortalim, Government Polytechnic, Panaji, Goa College of Home Science, Panaji, Government College of Arts, Science and Commerce, Khandola, Government College of Arts, Science and Commerce, Sanquelim etc. for taking up research projects in Science and Technology.

2. Grants have been released to the Association of Friends' of Astronomy to conduct various annual science popularization and awareness programmes for students and public at the Public Astronomical Observatory (PAO) at Junta House, Panaji and also other branches of PAO in the State.
3. Goa State Innovation Council (GSInC) have been supported with yearly grants for functioning of Secretariat at Don Bosco College of Engineering, Fatorda and to conduct their yearly activities. GSInC have been also supported financially, to take up programmes for school teachers, teaching science subject with the objective to train them in innovation and creativity.
4. Travel grants have been released to faculties from various institutions like, Don Bosco College of Engineering, Margao, Padre Conceicao College of Engineering, Verna, National Institute of Malaria Research, Panaji, National Institute of Oceanography, Dona Paula, P.E.S. R.S.N. College of Arts and Science, Farmagudi, Goa College of Pharmacy, Panaji and other researchers in Science & Technology to travel in India and abroad to attend various conferences for presentation of their posters / research papers.
5. Department has successfully organized a prestigious science event entitled "Manohar Parrikar Vidnyan Mahotsav" 2019 in the month of December, 2019.
6. Science film festival, a Scientific event, was organized in January, 2020 through Vidnyan Parishad, Goa.

**Initiatives taken by the Department of Science and Technology and Waste management towards Waste Management in the State of Goa.**

1. Enhancement of Integrated Solid Waste Management Facility from existing 100 TPD to 250 TPD at Saligao Bardez Goa that will cater to the waste from Bardez, Pernem, Bicholim & Sattari Talukas. Project will be completed by December-2021.
2. Setting up of Integrated Solid Waste Management Facility at Cacora, Quepem Goa. This facility will cater to waste from villages of Sanguem, Dharbandora, Quepem & Canacona Talukas. The foundation stone was laid for above facility on 13-12-2019. Project will be completed by December-2021.
3. Setting up of Integrated Solid Waste Management Facility of 250 TPD capacity at Bainguinim, Tiswadi Goa to cater to the waste from Tiswadi and Ponda Taluka.

Environmental clearance from State Environmental Impact Assessment Authority (SEIAA) has been obtained. The project work will be commenced in the year 2020-21.

4. Setting up of Solid Waste Management Facility at Verna, Salcete Goa with the capacity of 250 TPD to cater waste from Salcete and Mormugao Talukas. Work order for conducting Environmental Impact Assessment studies for the said facility has been issued and the said studies will be completed by the end of April-2021.
5. Common Bio-Medical Waste Treatment and Disposal Facility (CBWTDF) at Kundaim, Ponda Goa to cater biomedical waste from the State of Goa. The Facility will be equipped with 100 kg/hour incinerator. Civil works have commenced at site and project will be completed by December 2021.
6. Setting up of Common Hazardous Waste Treatment, Storage & Disposal Facility (CHWTSDF) at Pissurlem to cater 25000 TPA. The facility will have a secured landfill and will be equipped with 1.5 ton/hr incinerator. Landfill will be commissioned by March 2021 & project will be completed by Dec 2021
7. Setting up of Construction & Demolition Waste Management Facility - with the capacity to treat 500 TPD Construction & demolition waste per day, for the State of Goa. GWMC had received proposal from SINTEF which is a registered Scientific Research Organization in Norway. Subsequently, the GWMC has signed a Memorandum of Understanding (MoU) with SINTEF, Norway on 17/08/2018 with the purpose of furthering the development of science and technology in the area of recycling of Construction and Demolition (C&D) Waste.\
8. Setting up of e-waste Management facility in the State of Goa to collect and dispose E-waste generated in the State of Goa. Tender for selection of service provider for Design-Build and Operate an E-Waste Management (Collection, Storage and Dismantling) for the State of Goa has been already floated.
9. Saligao Refused Derived Fuel (RDF) Transportation Tender for transportation of RDF from Saligao Waste Treatment Facility to Cement Industry, work Order has been issued for the same on 10-12-2019 and will be completed within 2 years.
10. Highway and District road waste collection on either side of carriageways and transportation of solid waste to nearest facilities designated by GWMC from time to time for a total stretch of approximately 317.5 km since January 2020
11. Remediation of Legacy Dumps to clear 11 legacy waste dumpsites in the State of Goa. Remediation has been completed for 2 sites (i.e. Campal-Panaji & Headland Sada-Vasco) and works are going on at 2 sites (i.e. Assagao-Mapusa & Sonsodo-Margao).

6. **Financial aspects of plan and non-plan schemes:**

Actual expenditure incurred on various schemes implemented by the Department during 2019-20 is detailed below:-

(Rupees in lakhs)

| Major Head   | Name of the Scheme  | 2019-20         |                 |                |
|--------------|---|-----------------|-----------------|----------------|
|              |   | B.E.            | R.E.            | Actual Exp.    |
| 3425         | Other Scientific Research                                   | 2787.50         | 8787.50         | 3012.64        |
| 5425         | Capital Outlay on Other Scientific & Environmental Research | 7350.00         | 13850.00        | 3018.66        |
| <b>Total</b> |   | <b>10137.50</b> | <b>22637.50</b> | <b>6031.30</b> |

**7. Vision for Future.**

Department aims at popularizing the Science and Technology in the State. Department also plans to reach to students community in the State including students from tribal communities by framing and implementing relevant schemes so that maximum youngsters are attracted towards science and choose science subject as their future education. Also Department aims at making the Goa State garbage litter free and plastic and other waste litter free by 2022, by implementing and enforcing relevant legislation / Rules.

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