

DEPARTMENT OF ENVIRONMENT & FORESTS
GOVERNMENT OF ARUNACHAL PRADSEH
ITANAGAR

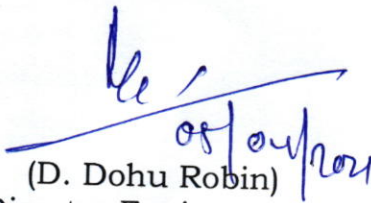
No. For (Env)-10/06/SER/Part-1/395

Date-05-04-2021

BRIEF NOTICE FOR RFP

Sealed proposals are invited from the empanelled list of Expert Institutions approved by the Ministry of Environment, Forests & Climate Change, New Delhi as listed in Annex - 1 for preparation of State Environment Report (SoER -2021) for the State of Arunachal Pradesh.

The proposals are to be submitted as per the format in Annex- 2 (Technical Proposal) and Annex-3 (Financial Proposal). They should be submitted separately in sealed envelope marked as "TECHNICAL BID FOR SoER, 2021" and "FINANCIAL BID FOR SoER, 2021". **The proposals should reach the office of the undersigned on or before 10.05.2021.** The offers shall be opened by the Departmental Evaluation Committee on the same day at 4 pm. The detailed RFP document is available on our website <http://arunachalforests.gov.in/>


(D. Dohu Robin)
Director Environment
O/o PCCF, Itanagar
Director (Env & FS)
Department of Environment & Forests
Govt. of Arunachal Pradesh
Itanagar

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ITANAGAR

**Request for Proposals for preparation of
State of Environment Report 2021,
Arunachal Pradesh (SoER 2021-Arunachal
Pradesh)**

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BACKGROUND

The status of the environment and the contribution of conventional development strategies to achieve sustainable development have been a matter of increasing concern over the last few decades. The 2030 Agenda for Sustainable Development seeks to achieve SDGs by 2030 and several important sustainable development goals pertain to the Environment. Economic development while fulfilling the genuine needs, aspirations and demands of the present generation should also conserve the natural resource base and help in the regeneration process to fulfil the demands of the future generations. The state of environment is largely a replication of how people interact with the available natural resource base. Very often, environmental degradation is due to over population and poor socio-economic conditions. Indiscriminate industrialization, inefficient resource use and urbanization can also rapidly degrade the environmental status. The sustainable development challenge is to optimize often conflicting needs and demands.

The State of Environment (SoE) Report aims at providing guidance for environmental action, planning, policy setting and resource allocation for the coming decades. It is based on sound analysis of the state and trends in the region's environment and elaborates the priorities and key issues of environment concern faced by the region.

The preparations of State of Environment Reports have been entrusted to the Department of Environment and Forests, Government of Arunachal Pradesh. It is to state that the guidelines of the MoEF&CC, GoI envisage the preparation of a comprehensive SoER report at State/UT/Hotspot level with a periodicity of one SoER in every two years. Under these guidelines a number of expert institution in the country has been empanelled for participating in the competitive bidding for preparation of SoER. The list of empanelled institution is attached in Annexure 1. The process of bidding and submission of reports to MoEF&CC, GoI will be coordinated by the Department of Environment and Forests, Government of Arunachal Pradesh.

OBJECTIVE

To prepare **State of Environment Report of the Arunachal Pradesh 2021** by mapping environmental, social and natural resource information and provide the information in the form of write-ups, maps, data tables, geo spatial maps, photographs etc.

SCOPE OF WORK

The State of Environment Report of the state will be developed on the outline, finalized in consultation with the Ministry of Environment, Forest & Climate Change and other stakeholders. The outline, if necessary, may be modified in consultation with the Ministry. 500 copies in English will be printed. Printing of more copies, if required, will also have to be done on repeat order. The specific objectives of the assignment are:

- To prepare State of Environment report of the State by mapping environmental, social and natural resource information.

- To provide the information in the form of write-ups, maps, data tables, flow charts, geo spatial maps, photographs etc.
- To provide a comprehensive document containing statistics on environmental themes and indicators in the context of Arunachal Pradesh.

Output

The key output of the assignment will be a State of Environment report of Arunachal Pradesh 2021 highlighting:

- The status and trend of Environmental issues
- Pressure State Impact Response analytical framework
- Achievements of the State in SDGs related to the environment and the extent of mainstreaming of SDG Concerns in budgetary systems to the extent feasible. (To furnish district wise information where available)
- Achievements of the state toward compliance with various MEAs(Multilateral Environment Agreements) including UNFCCC, UNCCD and CBD
- Extent of framing of District Environment Plans and their implementation in the State
- Policy recommendations for environmental issues in general and fiscal and market based instruments for addressing resource management and control of pollution, in particular

An additional output will be the “**Statistical Handbook of Environment**” of Arunachal Pradesh. This will be a compilation of data and figures on the key components of environment, viz. land, air, water and biodiversity, for the purpose of indicating the state of environment through accurate statistics.

TERMS OF REFERENCE FOR THE STUDY

The duration of preparation of the Report and printing shall not exceed one year from the date of dispatch of the sanction order disbursing the first installment from MoEF&CC to the State Government. The preparation and printing of the SoER shall be undertaken with following terms of reference:

- i. The State of Environment Report of the Arunachal Pradesh-2021 will be a comprehensive document (study, research and editorial inputs) covering aspects like Forest, Wildlife, Biodiversity & Conservation, Pollution, Agriculture, Water Resource, Eco-tourism, Health and Climate change etc. along with its recommendations for corrective measures.
- ii. Time Schedule for the preparation of the report is one year from the date of dispatch of the sanction order disbursing the first installment from MoEF&CC to the State Government with a

provision of extension of at most 3 months with the approval of the Competent Authority in the MoEF&CC.

- iii. The Report will be prepared in the standard template as attached in Annexure 4.
- iv. The Report will be prepared by one of the empanelled institutions identified by the State government from the list of empanelled institutions shared by MoEF&CC with the states. The Expert Institution will be selected through a competitive bidding process based on Combined Quality Cum Cost Based System (CQCCBS).
- v. The Selected institution will submit a monthly progress report on the work to the Department of Environment and Forests, Government of Arunachal Pradesh. The final draft report may be submitted to the department within one year from the disbursing the first installment from MoEF&CC to the State Government

ELIGIBILITY OF AGENCY UNDERTAKING THE PROJECT

Only the expert institution empanelled by the MoEF & CC, GoI as indicated in office Memorandum of Statistical Cell vide/ F.No.8/2/2014-15/EI dated 22.09.2016 are eligible to participate in the competitive bidding process. The list of expert institution empanelled by MoEF&CC, GoI is attached in Annexure 1. The empanelled agencies should submit the technical and financial proposal in separate sealed envelopes

Evaluation of the Technical Proposal(70% Weightage):

The Departmental Evaluation Committee shall evaluate the proposals received from various empanelled agencies on the basis of their responsiveness to the request for proposal (RFP). Selection of the Agency will be based on competence, capacity, past experience of similar nature. The agency should preferably have experience in preparation of State of Environment Report. The technical application form is attached in Annexure 2:

Methods for Technical Evaluation:

Sl. No	Criteria	Marks out of 100	Remarks
1	SoER Report Experience in SoER formulated/published earlier	30	15 marks for one report and 30 marks for two or more reports
2	Methodology Process of data collection,	20	To be decided by the SLSC

	data integration, data analysis and report format presentation		
3	<u>Manpower</u> Number of PhD qualified employees to be engaged in preparation of SoER	20	10 points for 4 Nos. of PhD candidates, 20 points for 5 or more Nos. of PhD candidates
4	<u>Publications</u> Peer Reviewed International journal	20	10 points for 5 publications and 20 points for 6 and above
5	<u>Experience in North East India</u> Earlier projects in North East India, and tie up with local institutions	10	5 Points for one projects in North East India and 10 points for 2 or more projects in North East India

The **minimum qualifying marks** for technical evaluation is **50**.

Evaluation of the Financial Proposal (30% Weight)

Financial proposal will be evaluated only in respect of those agencies which satisfy technical evaluation criteria. The final score will be prepared by giving **70%** weight to technical proposal and **30%** to financial proposal.

After the evaluation of technical bids is completed, the State government shall notify those institutions whose proposals did not meet the minimum qualifying mark or were considered non-responsive to the RFP and Terms of Reference, indicating that their Financial Proposals will be returned unopened after completing the selection process. The State government will determine whether the Financial Proposals are complete, and correct without any computational errors, if any. In case of Combined Quality Cum Cost Based System (CQCCBS), the lowest Financial Price (Fm) will be given a financial score (Sf) of 100 points. The financial scores (Sf) of the other Financial Proposals will be computed as follows:-

$Sf = 100 \times Fm/F$, in which Sf is the financial score, Fm is the lowest price and F the price of the proposal under consideration. Proposals will be ranked according to their combined technical (St) and financial (Sf) scores, giving 70% weight age to the Technical Score and 30% weight age to the Financial Score.

The financial application form is attached in **Annexure 3**:

GUIDELINES FOR SUBMISSION OF PROPOSALS

I. Proposed Contract Terms

The operating clauses would emerge from the technical and financial processes finalized by the Departmental Evaluation Committee (EC) include the terms:

II. Definitions

In the contract /MoU, the following terms shall be interpreted as indicated:

- a) MoEF&CC means the Ministry of Environment, Forest & Climate Change, or any other authorized representative of MoEF&CC.
- b) SoER-Ar.P means State of Environment Report Arunachal Pradesh.
- c) The "Contract/MoU" means agreement entered between Department of Environment and Forests, and the Agency selected, including all attachment annexure thereto and all documents incorporated by reference herein.

III. Time Schedule

The selected agency shall have to submit the final SoER Report in printed form within one year of disbursing the first instalment from MoEF&CC to the State Government in any case. However, if the MoEF&CC will allow any extension in the time schedule in future, the same shall be strictly apply and will be binding upon the selected agency

IV. Payment

The payment for the aforesaid project shall be as decided based on bid documents. It should clearly indicate statutory taxes, service tax and any similar taxes, as applicable. The bid will be evaluated on the basis of the total cost of the project.

V. Payment terms and schedule

Payment will be made as follows:--

- a. 50%payment will be made after sanction of the project against contract signed between the Department of Environment and Forests, Government of Arunachal Pradesh and the selected Agency.
- b. 20% payment on submission of draft SoE Report
- c. 20% payment on submission of final SoE Report along with

submission of Utilization Certificate and Expenditure Statement.

- d. the remaining 10% of payment shall be made after acceptance of final SoER by the Ministry.

VI. Commercial Terms

The Department of Environment and Forests, Government of Arunachal Pradesh will try to release the final installment within 30 days from the date of submission of invoice by agency, subject to invoice and all supporting documents being in order.

VII. Project Time/Termination/Penalty/Liability Clause

- a. The duration of the assignment is scheduled to be completed within one year from disbursing the first installment from MoEF&CC to the State Government. However, if the MoEF&CC will allow any extension in the time schedule in future, the same shall be strictly applied and will be binding upon the selected agency. In case, the delay is solely on account of any fault on the part of agency, the project shall be completed by the agency without any extra cost or fee. In addition, the agency is liable to compensate the State Government for any delay on their part amounting to 1% of total contract amount for delay of per week unless they have been granted extension with the approval of competent authority in the Ministry. The Department of Environment and Forests, Government of Arunachal Pradesh shall have a right to prematurely close this project without assigning any reason.
- b. The Department of Environment and Forests, Government of Arunachal Pradesh may at any time terminate the contract by giving written notice to the Agency without any compensation to the Agency if the Agency becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Department of Environment and Forests, Government of Arunachal Pradesh.

VIII. Progress of the Project

Progress of the project may be intimated in writing to the Department of Environment and Forests, Government of Arunachal Pradesh on monthly basis in the form of PowerPoint Presentation and brief reports.

IX. Confidentiality

- a. Neither party will disclose to any third party without the prior written consent of the other party any confidential information

which is received from the other party for the purposes of providing or receiving services.

- b. Without prejudice to the foregoing provision of this clause, above, the Agency may cite the performance of the services to the clients and prospective clients as an indication of its experience.
- c. The Agency shall not, without the Department's prior written consent, disclose the commercial terms of this work order to any other organization.

X. Miscellaneous Terms & Conditions

- The end product of the work assignment carried out by the Agency, in any form, will be the sole property of MoEF&CC, GoI and the Department of Environment and Forests, Government of Arunachal Pradesh concerned.
- The Agency shall not outsource the work to any other associate/franchisee/ third party under any circumstances except with the prior approval of the Department of Environment and Forests, Government of Arunachal Pradesh and MoEF&CC GoI.
- The Agency shall perform the services and carry out its obligations under the contract with due diligence and efficiency, in accordance with generally accepted techniques and practices used in the industry and with professional/consulting standard recognized by national/international professional bodies and shall observe sound management practices. It shall employ appropriate advanced technology and safe and effective methods. The Agency shall always act, in respect of any matter relating to the Contract, as faithful advisors to the Department of Environment and Forests, Government of Arunachal Pradesh and shall at all times, support and safeguard the Department's legitimate interests.
- The Agency automatically agrees with the Department of Environment and Forests, Government of Arunachal Pradesh for honoring all aspects of fair trade practices in executing the work orders placed by the state government in this regard.

XI. Force Majeure

- a. Force majeure clause shall mean and be limited to the following in the execution of the contract placed by the Department of Environment and Forests, Government of Arunachal Pradesh:-
 - War/hostilities;
 - Riot or civil commotion;
 - Earth quake, flood, tempest, lightning or other natural physical disaster;
 - Restrictions imposed by the Government or other statutory bodies, which is beyond the control of the Agency, which prevent or delay the execution of the order by Agency.
 - Global factors (like pandemic, financial crisis etc impacting India)
- b. The Agency shall advise the Department of Environment and Forests, Government of Arunachal Pradesh in writing, duly

certified by the local Chamber of Commerce, the beginning and the end of the above causes of delay, within seven days of the occurrence and cessation of the force majeure conditions. In the event of a delay lasting for more than one month, if arising out of clauses of force majeure the Department of Environment and Forests, Government of Arunachal Pradesh reserves the right to cancel the contract without any obligation to compensate the Agency in any manner for what so ever reason, subject to the provision of clauses mentioned.

XII. Arbitration

- a. The Department of Environment and Forests, Government of Arunachal Pradesh and the agency shall make every effort to resolve amicably by direct negotiations any disagreement or dispute arising between them under or in connection with person other than a person employed by the Agency in the performance of the work order. If any dispute shall arise between parties on aspects not covered by this agreement, or the construction or operation thereof, or the rights, duties or liabilities under these except as to any matter the decision of which is specially provided for by the general or the special conditions, such dispute shall be referred to two arbitrators, one to be appointed by each party and the said arbitrator shall appoint an umpire in writing before entering on the reference and the award of the arbitration or umpire, as the case may be, shall be final and binding on both the parties. The arbitrators or the umpire as the case may be, with the consent of parties, may modify the timeframe for making and publishing the award. Such arbitration shall be governed in all respect by the provision of the Indian Arbitration and Conciliation Act, 1996 as amended or later and the rules there under and any statutory modification or re-enactment, thereof. In case of arbitration proceedings, the legal remedy can only be adjusted in the Jurisdiction of the Court at Arunachal Pradesh .
- b. The clause on confidentiality shall be valid for a further period of one year from the date of expiry or termination of the assignment, whichever is earlier.

XIII. Applicable Law

The contract shall be governed by the laws and procedures established by Government of Arunachal Pradesh, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing.

Sd/-
Director (Environment)
O/o PCCF, Itanagar

Annexure 1: List of empanelled Expert Institutions approved by the Ministry of Environment, Forests & Climate Change, Government of India

SL.NO.	Name of Institute /Company/ Firm/ NGOs/Council
1.	Indian Institute of Science, Centre for Ecological Sciences,(IISc), Bangalore.
2.	Indian Institute of Technology (IIT), Mumbai, Maharashtra
3.	Indian Institute of Technology (IIT), Madras, Chennai
4.	Indian Institute of Tropical Meteorology (IITM), Pune, Maharashtra
5.	Indian Institute of Forest Management (IIFM), Bhopal, Madhya Pradesh
6.	Indian School of Mines (ISM), Dhanbad, Jharkhand
7.	Institute of Economic Growth. New Delhi
8.	Anna University, Chennai, Tamil Nadu
9.	Aligarh Muslim University, Aligarh, Uttar Pradesh
10.	Jadavpur University, Kolkata, West Bengal
11.	Graphics University, Dehradun, Uttarakhand
12.	Calcutta University, Kolkatta, West Bengal
13.	Madras University, Chennai, Tamil Nadu
14.	Madras School of Economics, Chennai
15.	North East Hill University (NEHU), Shillong
16.	Deptt. of Environment Science, University of Kalyani, West Bengal
17.	International Institute for Population Sciences (IIPS), Mumbai
18.	National Environmental Engineering Research Institute (NEERI), Nagpur.
19.	Administrative Staff Collage of India (ASCI), Hyderabad
20.	The Energy Resource Institute (TERI), New Delhi.
21.	Environment Protection Training and Research Institute (EPTRI),

	Hyderabad
22.	Kerala State Council for Science and technology
23.	Punjab State Council for Science and technology
24.	Institute of Environment Studies Vijayawada, Andhra Pradesh
25.	Centre for Multi-Disciplinary Research (CMDRT), Dharwad, Karnataka
26.	Integrated Research & Action for Development (IRED) Delhi
27.	Centre for Science & Environment (CSE) New Delhi
28.	DEFT Advisory & Research, New Delhi
29.	Centre for Environment Management Mumbai Maharashtra
30.	WWF India, New Delhi
31.	Federation of India Chamber of Commerce (FICCI) New Delhi
32.	Indian Social Responsibility, Kinetics, New Delhi
33.	Glow Biotech Limited, Aligarh, Uttar Pradesh
34.	UmWelt Technologies India Pvt. Ltd, Lucknow, Uttar Pradesh
35.	Gazelle Business Media (GBN), Noida, Uttar Pradesh
36.	SKINETIC Sustainability Kinetics New Delhi
37.	Environmental Management & Policy Research Institute (EMPRI), Bengaluru
38.	Centre for Science & Environment (CSE) Ahmadabad, Gujarat
39.	Development Alternatives, New Delhi
40.	Environment Resource Management (ERM), New Delhi

Annexure 2: APPLICATION FORM (Technical)

(To be submitted in two copies)

ORGANISATIONAL DETAILS

1. (a) Name of the Institution/Organization :

(b) Mailing Address: -
2. Title of the Project:
3. Status of the institution/organization:
4. Manner in which the Institution/Organization was established (Act of Parliament, Act of the State Legislature, Registered under Societies Registration Act., 1860) -
5. (a) In case established under an Act of Parliament/State legislature the nature of the statute, No. of Act & year.
(b) In case established under Societies Registration Act/company registration Act or any other Act., the place, Registration No. & Date of Registration.
6. If Semi- Govt. Organization, the name of the Government/ Department to which it is attached.
7. (a) Whether Organization has a source of income,

(b) Whether it runs on no profit-no loss basis.
8. Brief history of the Organization:
9. Whether the Organization has any previous experience in the field mentioned? If so, details thereof (the name of the report and the agency for which these reports were published may also be given in case of each report).

(Portion II, III and IV of the Application Form should be filled in accordance with details shown in Item I)

I PROJECT OUTLINE

1. Give details about the approach proposed to be adopted for the job within the frame work outlined in the "Technical Paper for Bidding". The details should be given in bullet form and should not exceed 300 words.
2. Methodology for Data Collection and Analysis proposed as given in the Template attached as annexure 4.
3. Time schedule with milestones for completion of the job within the prescribed time frame.

II. STAFFING PATTERN

- a. Name of the Project Director:
- b. Position held by the Project Director in the Organization
- c. Major positions held by Project Director previously
- d. Curriculum vitae of the Project Director (to be attached)
- e. Field of Specialization of Project Director
- f. Projects completed by Project Director previously and organization for which undertaken
- g. List of Peer Reviewed International Journal Publications in last 3 years (to be attached)
- h. Names of projects in hand of the Project Director and names of their Commissioning Agencies.
- i. Number of Qualified PhD Scholars to be employed for the proposed report (Designation, Remuneration, Duration of employment to be specified); bio-data may be attached.

III. ADDITIONAL INFORMATION

- a. Number of SoER Reports Prepared till date.
- b. Number of projects in North East India

IV. LIST OF DOCUMENTS TO BE ATTACHED WITH THE APPLICATION FORM

1. Memorandum of Association and Rules/Constitution
2. Composition of Board of Governors/Executives or Governing Body etc.
3. Annual Reports of the last three years
4. Audited Accounts of last three years
5. Other required documents as specified by the State Government in RFP

Date:
Person) Telephone No.
Place:

(Signature of Authorized

Annexure 3: APPLICATION FORM (Financial)

(To be submitted in a separate sealed cover)

BUDGET ESTIMATES

- | | | |
|-------|---|------------|
| i. | Remuneration for Project Director, Staff/ Researchers, etc. | Individual |
| ii. | Travelling Allowance | |
| iii. | Stationery | |
| iv. | Contingencies | |
| v. | Computer & Tabulation | |
| vi. | Overhead expenses | |
| vii. | Taxes etc. | |
| viii. | Any other item (please specify) | |
| ix. | Grand Total | |

Other details required for financial bid and its format are to be decided by the State Government Concerned.

Date:

**(Signature of
Authorized Person)
Telephone No.**

Place:

For any clarification on the above the designated authority in the State Government may be contacted.

Annexure-4: Draft Template for State of Environment Report (SoER)

Introduction:

The State of Environment Report (SoER) aims to provide concrete guidance for environmental action planning, policy setting and resource allocation for the coming decades, based on a sound integrated analysis of the state and trends of the environment. It should also clearly select key issues and set priorities from the range of environmental concerns that the State is facing. Emphasis may be given to link ecosystem goods and services and human well-being. Finally, the report itself and the process of preparing the report should aim to mainstream the assessment findings into State developmental plans and processes in order to have a meaningful impact.

The SoER framework is the underlying structure used across all themes to assess the environment. It builds on an internationally accepted framework for SoE reporting—the DPSIR (drivers-pressures-state-impact-response) framework. This implies the identification of indicators reflecting D-P-S-I-R for each sector and environmental issues and analysis of the same over space and time. This analysis will then highlight the state of the sector concerned and how it has changed over time i.e. whether it has improved or deteriorated over time.

Chapters/Sections

Regional Context and Priorities

The section will primarily focus on the following:

Biophysical profile of the region

Changing demographic pattern in the region

Discussion on increasing use of natural resources and declining resource productivity

Economic profile of the region

Industrial profile of the region

State, Trends and Responses

A list of topic along with suggestive topic-wise indicators is as follows:

S. No.	Topic	Indicators
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1	Forests, Wildlife and Biodiversity	<p>Pressure: Demand for forest produce and firewood; Demand Supply Gap for wood; growth in tourist population; forest fires; Number of cases registered under Wildlife protection Act, 1972 and any other related issues in the State</p> <hr/> <p>State : Forest Cover; Change in the extent Forest Cover: Change in the quality of forests ; Wetlands; Status of endangered animals and plants; Number of BMCs (biodiversity Monitoring Committees, Documentation of TFRK (traditional Forest resource knowledge)</p> <hr/> <p>Impact : Human animal conflicts (species wise), tourism, richness and abundance of RET species over time period (State may give any composite index in this regard)</p> <hr/> <p>Response: Forest certification; Eco-tourism; Reserved and protected forests; Joint forest management; Biosphere reserves; National parks; Wildlife and bird sanctuaries</p>
2	Land Degradation and desertification	<p>Pressure: Agricultural practices; Land conversion for non-agricultural use; Waste generation; Mining activities, Climate change and land degradation:- anthropogenic and other pressures, eg. faulty land</p> <p>use practices, indiscriminate use of resources such as soil, water and other inputs</p> <hr/> <p>State/Impact : Wastelands; Fallow lands, Soil pollution (contaminated sites etc.) and related issues; Land resources; causes of degradation; anthropogenic and other pressures, e.g. faulty land use practices, indiscriminate use of resources such as soil, water and other inputs; soil map and soil fertility maps; soil erosion and land degradation (data / maps); problem soils (salinity / sodicity / water logging / acidity), etc.; desertification, if any, its extent, causes and effects</p>

		Response : Organic farming; Environmental clearance for mining projects; Sustainable mining practices; Waste management; Compliance with MSW2000 Rules
3	Air and Noise Pollution	<p>Pressure : Motor vehicle density; Road density and connectivity; Industrial growth; Use of solid fuels for cooking; Burning of agricultural and solid waste</p> <p>State/Impact : Air pollution levels in major cities; indoor air pollution levels; Greenhouse Gas Emissions by sector (%):- agriculture, industrial processes, energy and water; Health Impacts; Mean SO₂ concentration of major cities (Pg/m³); Mean NO₂ concentration of major cities (Pg/m³); Mean PM₁₀ concentration of major cities (Pg/m³); Co₂ emissions (Kilotonnes); Co₂ emission per capita (Tonnes/per capita); Concentration of ozone (Ppbv); (In case such inventories exist)Growth in registered factories (%); Increase in number of vehicles(Number); No. of critical areas in terms of air pollution and their increase or decreasein given 10 / 20 year period; Incidences of air pollution related ailments vis-a-vis reported pollution levels; No. of vehicles and linkage to RSPM / NO_x/SO₂ ;</p> <p><i>Noise levels beyond limits (dB):-</i> Sound levels of Industrial area, Commercial area, residential area and silence zone</p> <p>Response : Air pollution monitoring network; growth of public transport; penetration of clean cooking fuels; Integrated Transport system; Systems/measures for monitoring Noise Pollution</p>
4	Water Resources and water Pollution	Pressure: Rainfall anomaly; Fertilizer and pesticide use; Domestic, industrial and agricultural water effluents;

		<p>State : Quantity and Quality of water, Generation of Waste Water And its Discharge to the Environment (preferably at local body level); annual freshwater consumption per capita (M30); annual ground water withdrawal (Cu m / capita / annum); annual water withdrawal (Cu m / capita / annum); total actual renewable water resources (M3 / year);- percentage of ground water / surface water use in city water supply / irrigation; percentage of ground water resources in safe / stressed / critical zones; % of total water withdrawal for agriculture (%); % of total water withdrawal for industrial sector (%); % of total water withdrawal of municipal sector (%); ground water abstraction (Km3/year); Population with safe drinking water (% of the total population); Percentage of city covered by sewage network, percentage of treated sewage recycling; BOD level of most important rivers (Mg/l); Population with access to sanitation (% of the total population); DO level of most important rivers (Mg/l); Coliform count per 100 ml (MPN/ 100 ml); Fertilizer and Pesticide use (Kg/Ha); Arsenic contamination in ground water (Pg/L); Fluoride contamination in ground water (Pg/L)</p>
		<p>Impact : Incidence and spread of water borne diseases; Data in terms of Disability adjusted life years due to poor water quality and sanitation (DALYs), where available; Water conflicts ; any other measures of the socio-economic cost of water pollution</p>
		<p>Response : Desalination plants; Rainwater harvesting ; Water treatment plants; Drip and sprinkler irrigation; Promotion of low water intensive crops' Watershed programs; Water user charges and other Fiscal /Economic instruments for water quality management (or for penalizing Water Pollution); Economical methods of Waste Water treatment; Waste</p>

		Water Recycling and Use
5	Agriculture and allied sector	<p>Pressure : Dependence on Agriculture; Climate Change</p> <p>State : Declining Production/ Yield and Widening Yield Gap; change in agricultural area (% of the total land area); change in change in arable land area (% of the total land area); total area equipped for irrigation (% of agricultural land area); agriculture production value added (% of GDP); labour force in agriculture (% of total labour force); trends in gross cropped area and net cropped area; total production and productivity; food and nutritional security and food safety aspects; Climate change vulnerability; agro-forestry systems and practices (area, production and other characteristics); livestock population and production trends; fisheries statistics; chemical fertilizer use and efficiency; site-specific nutrient management- insecticides / fungicides / herbicides</p> <p>and other chemicals in agriculture</p> <p>Impact : Implications of food Insecurity; Agricultural non-point source pollution and other forms of environmental contamination</p> <p>Response: Universal Public Distribution System; Organic Farming; Vermi-composting; ; Bio-fertilizers; organic agriculture (extent, production, quality aspects); secondary agriculture to alleviate harmful environmental impacts; programmes and schemes of the Government that lead to sustainable agriculture ; Adaptation to climate change vulnerability (eg: Expenditure from the National Adaptation fund by the state) and other measures , Performance of PDS and ICDS.</p>

6	Energy	<p>Pressure: Industry, Cooking and Lighting, Per capita demand for energy, Fuels for transportation State- Extent of supply and the shortfall; total commercial energy production (coal, crude oil and natural gas) (Kt of oil equivalent); total commercial energy consumption (coal, crude oil and natural gas) (Kt of oil equivalent); net energy imports (% of energy use); fossil fuel energy consumption (% of energy use); electricity generation (Billion Kilowatt hours); population with electricity (Millions); Electrification rate (%); Alternative energy use (% of total energy use); Theoretical hydropower capacity (Gigawatts per hour); installed hydro power capacity (Gigawatts); population relying on biomass (Millions % of total population).</p> <p>Impact-T&D Losses, Greenhouse Gas Emissions from Energy Sector</p> <p>Response - Penetration of Renewable Energy Sources in Energy- mix; Improving Energy Efficiency by retrofitting of industrial processes</p>
7	Coastal Resources	<p>Pressure: Commercial Fishing: Domestic and Industrial Pollution; Ports and Harbours; Coastal Tourism.</p> <p>State/Impact: change in Mangrove area; Coral Reefs; Seagrasses and Seaweeds, Estuaries; Sand Beaches and Dunes; Fish Species; Olive Ridley Turtles and similar other important species; level of dependence for livelihood</p> <p>Response : Integrated Coastal Zone Management (ICZM) Plan; Institutional Changes; Tsunami Rehabilitation; Mangrove Restoration; In-Situ Conservation; and Ban on fishing.</p>
8	Environment and Health	<p>Sanitation related matters; Airborne diseases and conditions; Water-related diseases and conditions, Vector-related diseases and conditions, Health problems associated with excessive UV radiation exposure, Toxic substance and nuclear radiation- related</p>

		diseases and conditions, Impact of Climate Change Data in terms of Disabilities adjusted life years due the specific environmental problem eg. Sanitation , where available.
9	Waste and its Management	<p>Pressure: waste management related infrastructure; degradation of land, water and air</p> <p>State/ Impact: waste generation and disposal by type of waste; pollution load on rivers; health linkages; solid waste generated (Metric tonnes); E-waste generated (Metric tonnes); hazardous waste generated (Metric tonnes); Any other type of waste generated and the statutory compliance given in this regard; Growth in generation vis-a-vis GDP; percentage of waste collected every day; percentage of waste recycled; percentage of waste sent to processing facility; percentage of waste finally disposed</p> <p>Response: Institutional actions for waste collection/disposal; Environment hotspots for waste ;Innovative systems of waste reuse and recycling with measures and data systems for monitoring waste management</p>
10	Environmental Hotspots	Biodiversity rich areas; Policy measures being undertaken for protection (ESZ etc.)- Priority conservation, participatory conservation; endemic plants (number); endemic animals(number); protected area (% of hotspot area)

Environmental Protection and Resource Management expenditure

1. Government environmental protection and resource management expenditure
2. Corporate, non-profit institution and household environmental protection and resource management expenditure

Extreme Event Preparedness and Disaster Management

Preparedness for natural extreme events and disasters

Preparedness for technological disasters

Environmental Information and Awareness

Environmental information

Environmental education

Transformative pathways and Sustainable Development Goals

SDGs are a comprehensive list on global goals integrating social, economic and environmental dimensions of the development. Without a healthy environment and ecosystems, it will be difficult to achieve the SDGs and improve human well-being. Specifically, the goals on climate change, terrestrial ecosystems, oceans, sustainable consumption and production, water and energy are directly related to the environment. Environmental protection is also essential for other goals, including poverty reduction and health improvements. An integrated approach is necessary to achieve all the SDGs.

In this regard, States/UTs are expected to highlight the progress made and discuss strategies that have been developed for achieving SDGs in the region.

In particular, they may specify if SIF (State Indicator Framework) and District Indicator Framework (DIF) has been developed and is being used for monitoring.

Policy recommendations

Under this section States/ UTs may firstly analyse programs/initiatives of the State Government and their environmental linkages. In particular, the existence and implementation of state and district environment plans and/or the data being generated there from may also be furnished. Based on the analysis, policy priorities may be developed for facilitating sustainable development in the state.

Fiscal, financial and monetary instruments for environmental management, in general, and for control of air and water pollution, in particular, may be proposed; Case studies on implementation of such measures in the report may be provided.