



Government of India
Ministry of Environment, Forest & Climate Change
(Economic Division)

2020-21

Annual Progress Report



Hosted by

Forest and Environment Department
(Formerly Forest and Environment & Wildlife Management Department)
Government of Sikkim
Gangtok

SIKKIM STATE ENVIS HUB
On Status of Environment & Related Issues

(STATE GOVERNMENT CENTER)



Government of India
Ministry of Environment, Forests & Climate Change
(Economic Division)



ANNUAL PROGRESS REPORT 2020-21

(1st April 2020 – 31st March 2021)

OF

SIKKIM STATE ENVIS HUB

On Status of Environment & Related Issues
(STATE GOVERNMENT CENTER)



Hosted by

Forest and Environment Department
(Formerly Forest and Environment & Wildlife Management Department)

Government of Sikkim
Deorali, Gangtok – 737102

Website URL: www.sikervis.nic.in
Email ID: sik@envis.nic.in
Tel (O): 03592 280381
Fax: 03592-281778

SIKKIM ENVIS HUB
ANNUAL PROGRESS REPORT 2020-21

| SN | INDEX | Page No |
|-----|--|---------|
| 1. | Name of Host Organization | 1 |
| 2. | Assigned Subject Area | |
| 3. | Date/Moth/Year of establishment of ENVIS Centre | |
| 4. | Name and designation of ENVIS Coordinator (2020-21) | |
| 5. | Composition of an Advisory Committee | |
| 6. | Current ENVIS Staff Structure | 2 |
| 7. | Mandate of the Host Organization and Mandate of the ENVIS centre | 3 |
| 8. | Databases 8.1 Catalogue of Non- numeric Databases compiled by the ENVIS Centre till date 8.2 Catalogue of Numeric and Time- series Database compiled by the Centre till date 8.3 New Databases developed during the Financial Year (2020-21) 8.3.1 Non- numeric Databases 8.3.2 Numeric and Time- series Databases 8.4 Status of data entry in ISBEID: (For State/UT ENVIS Centres)- <i>in Annexure - I</i> | 4-6 |
| 9. | Information/ Knowledge Products 9.1 ENVIS Newsletters published during 2020-21 9.2 Other Publications/ information products brought out during 2020-21 9.3 Information Products published/ released so far | 7-14 |
| 10. | ENVIS Website 10.1 URL 10.2 Status of restructuring of Website 10.3 Frequency of updating Website 2020-21 10.4 Subject-specific database updation (numeric/ others) 10.5 Publication uploaded/ updated on Website | 15-16 |
| 11. | User Engagement and Interaction 2020-21 11.1 Total number of visits on Website 11.2 Number of unique visits on Website 11.3 Number of reports downloaded/ read by stakeholders 11.4 Query Answer Statistics | 17-18 |
| 12. | Quarter-wise Output-Outcome Indicators – NITI Aayog Monitoring Dashboard | 19-22 |
| 13. | Implementation of Annual Plan of Activities of the FY 2020-21 | 23-32 |
| 14. | New Initiatives taken during 2020-21 | 33-35 |
| 15. | Date of most recent physical verification by the Ministry | 36-39 |
| 16. | Status of Existing Hardware, Inventory/ Register Registers | |
| 17. | Status of Utilization of grant in 2020-21 and reasons for shortfalls, if any | 40 |
| 18. | Gist of Other Activities [Awareness/ Training/ Outreach Activities] 2020-21 | 41-51 |
| 19. | ENVIS Output-Outcome Details and its Impact over past five (5) years | 52 |
| 20. | Proposed Annual Action Plan of Activities for FY 2021-2022 | 53-54 |
| 21. | Annexure I - Status of Data Entry in ISBEID during 2020-21 | 55-65 |
| 22. | Annexure II – Status of Data Compiled for NES-GRIDSS during 2020-21 | 66-67 |
| 23. | Annexure III – Report on GSDP certificate courses conducted during 2020-21 - Value Addition and Marketing of NTFP Product (Animal Origin): Wild Beekeeping and Processing - Value Addition and Marketing of NTFP Product (Plant Origin): Bamboo Crafts - Forest Fire Management - Sustain and Enhance Technical Knowledge in Solar Energy Systems | 68-119 |



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Annual Progress Report 2020-21 on Activities of Sikkim State ENVIS Hub

| | | | | | | | | | | | | | |
|---|---|---------------------------|-------------|---------------|--------|-----------------------|--------|-------------------------|--------|--------------------------|--------|--|------------------|
| 1 | Name of Host Organization: Forest and Environment Department <i>(Formerly Forests, Environment and Wildlife Management Department),</i> Government of Sikkim, Deorali, Gangtok - 737102 | | | | | | | | | | | | |
| 2 | Assigned Subject Area: On Status of Environment & its Related Issues | | | | | | | | | | | | |
| 3 | Date/Month/Year of establishment of ENVIS Centre: MoU dated 23/03/2002 Established vide letter No: 13(1)/WB/2002 – ENVIS dated: 25/06/2002. ENVIS Centre revamped to State ENVIS Hub vide MoC dated 23/03/2018 | | | | | | | | | | | | |
| 4 | Name and designation of ENVIS Coordinator/ HoD etc: ENVIS Hub Coordinator: Shri. B. B. Gurung, IFS Director (E & SC, Planning and ENVIS) Mob: 9733003990 Email: bbgurunglegai@yahoo.in Smt. Kusum Gurung, Joint Director (ENVIS) and Co-Coordinator Mob: 7872891719 Email: khusdee2005@yahoo.com Head of the Organization: Shri. M.L. Srivastava, IFS Add. Chief Secretary –cum- PCCF Tel (O): 03592-281877 Email: pccf-fewd@sikkim.gov.in | | | | | | | | | | | | |
| 5 | Has the Host Organization constituted an Advisory Committee for guiding the activities of the Centre? Yes | | | | | | | | | | | | |
| Composition of the Advisory Committee: (Select YES or NO: if YES kindly fill the right column space; if NO kindly leave it blank) <input type="radio"/> YES <input checked="" type="radio"/> NO | <table border="0"> <tr> <td>1. PCCF-cum Pr. Secretary</td> <td>Chairperson</td> </tr> <tr> <td>2. CCF (T/HQ)</td> <td>Member</td> </tr> <tr> <td>3. Director (KNP/KBR)</td> <td>Member</td> </tr> <tr> <td>4. Pr. Scientist (SPCB)</td> <td>Member</td> </tr> <tr> <td>5. Director (TT), DST&CC</td> <td>Member</td> </tr> <tr> <td>6. Director (Plng, E&SC)-cum-Coordinator (ENVIS)</td> <td>Member Secretary</td> </tr> </table> (Office Order No. 1119/ADM/FEWMD dated 21/03/2015) | 1. PCCF-cum Pr. Secretary | Chairperson | 2. CCF (T/HQ) | Member | 3. Director (KNP/KBR) | Member | 4. Pr. Scientist (SPCB) | Member | 5. Director (TT), DST&CC | Member | 6. Director (Plng, E&SC)-cum-Coordinator (ENVIS) | Member Secretary |
| 1. PCCF-cum Pr. Secretary | Chairperson | | | | | | | | | | | | |
| 2. CCF (T/HQ) | Member | | | | | | | | | | | | |
| 3. Director (KNP/KBR) | Member | | | | | | | | | | | | |
| 4. Pr. Scientist (SPCB) | Member | | | | | | | | | | | | |
| 5. Director (TT), DST&CC | Member | | | | | | | | | | | | |
| 6. Director (Plng, E&SC)-cum-Coordinator (ENVIS) | Member Secretary | | | | | | | | | | | | |

6. Current ENVIS Staff Structure (Full Time):

| SN | Name, Gender & DOB | Position Held (Full Time) and Monthly Emoluments drawn during 2020-21 (Rs.) | Date of Joining ENVIS | Education Qualification | Experience in ENVIS as on 31 st March 2021 | Detailed Job description |
|----|---|---|---|------------------------------|---|--|
| 1. | Mr. Rajen Pradhan (Male) DOB: 20-07-1982  | Sr. Programme Officer Rs. 46,690/- per month | 17 th of April 2006 as Programme Officer Re-designated as Sr. Programme Officer on 20/03/2009 | B. Tech (Computer Sc.) | 14 years 11 months in ENVIS | Data compilation, collation, analysis and reporting; Preparation of knowledge products like quarterly newsletters, SoE Reports and other ENVIS publications; Updation of subject area database and ENVIS web portal; Facilitation and coordination of ENVIS schemes viz. GSDP, NES-GRIDSS and CESVP; Networking, liaison with line departments, subject experts, stakeholders, beneficiaries and ENVIS network for exchange of information, identifying data/knowledge/skill gaps, awareness and training. |
| 2. | Mr. Laxuman Darnal (Male) DOB: 25-12-1976  | Information Officer Rs. 38,997/- per month | 18 th of August 2006 as Programme/IT Assistant Re-designated as Information Officer on 20/03/2009 | PG (Diploma) in Computer Sc. | 14 years 7 months in ENVIS | Coordination with line departments for data and information collection from secondary sources; Archiving of data and information like gazette notifications, annual reports etc.; Collection of news articles, journals and reports for updation of database and web content; Maintaining book of records, stock registers, cash books etc and accounting in PFMS platform; |

| SN | Name, Gender & DOB | Position Held (Full Time) and Monthly Emoluments drawn during 2020-21 (Rs.) | Date of Joining ENVIS | Education Qualification | Experience in ENVIS as on 31 st March 2021 | Detailed Job description |
|----|--|---|--|---|---|--|
| 3. | Ms. Renu Gurung (Female) DOB: 02-10-1988  | IT Officer Rs. 31,539/- per month | 16 th of September 2011 as Data Entry Operator Re-designated as IT Officer on 20/03/2009 | BA Graduate with Diploma in computer application | 9 years 6 months in ENVIS | Data and information compilation for abstracting and updation in ISBEID/NES platform; Management of online query response system; Coordination with stakeholders, eco-clubs for knowledge product and information dissemination; content management of subject area database. |
| 4. | Ms. Tulsha Gurung (Female) DOB: 09-12-1992  | Data Entry Operator Rs. 14,641/- per month | 02 nd of December 2013 as Data Entry Operator | CI XII pass with Diploma in computer application, | 7 years 4 months in ENVIS | Iterative data entry services like updation of bibliography, glossary, forest fire statistics, library inventory etc; Record keeping of publications and reports from secondary sources; ENVIS library management; Maintaining of log books, registers and office consumables; |

7. Mandate of the Host Organization and Mandate of the ENVIS Hub

| Mandate of the Host Organization | Mandate of the ENVIS Hub |
|--|---|
| The primary mandate of the host department is protection & conservation of Forests, Environment & Wildlife in the State. | To collect, collate, store in retrieval system and disseminate data and information on “Status of Environment & Related Issues”. To promote, implement and coordinate new ENVIS initiatives viz Green Skill Development Programme (GSDP), Grid-based Resource Information and Decision Support System (GRIDSS), and Community-driven Environmentally Sustainable Village Programme (CESVP). |

8. Databases:

8.1. Catalogue of Non-numeric Databases compiled by the ENVIS Hub till date:

| Name of Database | Description (in brief) | Data type (descriptive/ graphical/ geospatial/ etc.) | Status of Updation/ Periodicity/ Data Points Compiled (including date/month/year of last data point) | Source(s) of data | Online Availability (Whether uploaded on ENVIS Website) |
|--------------------------|--|--|---|---|--|
| Agriculture | Opportunities and Challenges, Agro-biodiversity of Sikkim Himalaya, Sikkim organic Mission, | Descriptive, graphical | 2020 | Food Security and Agriculture Development Department, | Yes |
| Pollution | Air, water, noise, solid waste, hazardous waste, consent forms | Descriptive | Weekly up to February 2021 | SPCB | Yes |
| Biodiversity | Comprehensive database on floral and faunal diversity of Sikkim | Descriptive, geospatial | updated up to 2020 | Govt publication | Yes |
| Climate Change in Sikkim | Daily weather data of Gangtok, district wise rainfall, monthly met data, climate synthesis report, Comprehensive study report on in-depth research by several scholars | Descriptive, geospatial | updated up to February 2021 | Govt publication, SPCB, Sikkim Met Deptt | Yes |
| Demography | Analysis on Population study of Sikkim | Descriptive, graphical | 2011 Census | Census of India | Yes |
| Disaster | History of Earthquakes, landslides, forest fire cases in Sikkim | Descriptive | 2020 | Disaster Management Department | Yes |
| Ecotourism | Policy, trek, permits and fees, ecological study, festivals. | Descriptive | February 2021 | Forest deptt | Yes |
| Energy | Electricity and energy consumption | Descriptive | Annual up to 2018 | Power and Energy Deptt | Yes |
| Environment | EIA, EMP, SoE report, carrying capacity study report, ECs, Journals etc. | Descriptive | 2020 | Forest deptt | Yes |
| Forest Resources | Forest types, SFRs, JFMCs, EDCs | Descriptive | 2020 | FSI, State Forest deptt | Yes |
| Land and Water Resources | Watershed, Wetlands, Wasteland, Rivers, landslide and soil treatment, water quality of river Rately Chu – Source of Gangtok | Descriptive | 2020 | SAC, ISRO, Journals, Forest deptt | Yes |
| Wildlife | PAs, KNP/ KBR, eco-sensitive and conservation zones, Journals, etc | Descriptive | 2020 | Forest deptt | Yes |
| Soils and Minerals | Geology and Mineral Resources of Sikkim, Mineral reserves in Sikkim, Soil resources | Descriptive | 2020 | Mines Minerals and Geology Deptt | Yes |
| Sericulture | Mulberry, muga and eri culture practices in Sikkim | Descriptive | 2019 | Forest deptt | Yes |

8.2. Catalogue of Numeric and Time-series Databases compiled till date:

| Name of Database | Description (in brief) | Time Period (Starting year- Ending year) and Periodicity (annual/ monthly/ other) | Source(s) of data | Online Availability (Whether uploaded on ENVIS Website) |
|-------------------------------------|---|---|---|---|
| Agriculture | Area, Production and Productivity of Rice, Wheat, Maize, Finger Millet, Barley, Buckwheat, Pulses, Oilseeds | Annual (2003-04 to 2018-19) | Food Security & Agriculture Development Deptt | Yes |
| Air Quality of Sikkim (8 locations) | PM ₁₀ , PM _{2.5} , SO _x , NO _x | Annual, Monthly, Weekly till February 2021 | SPCB Sikkim | Yes |
| River Water Quality | pH, BOD, T Coliform etc | Monthly (2011 to 2020) | SPCB Sikkim | No |
| Biodiversity | Statistics on species availability | Annual up to 2020 | Forest deptt | Yes |
| Climate | Temperature, rainfall etc | Monthly, Annual 1996-2020 | IMD | Yes |
| Demography | Demography statistics | 2001, 2011 | Census of India | Yes |
| Earthquakes | History of Earthquakes | 1839 -2019 | Disaster Management Deptt | Yes |
| Forest Fire Cases | Forest fire cases in Sikkim | 2004 – 2020 | Forest deptt | Yes |
| Electricity Consumption | Category wise consumption | Annual, 2008-09 to 2019-20 | Power & energy deptt | Yes |
| Energy Consumption | Per capita consumption, Power from National grid, hydel power generation | Annual 2002-03 to 2019-20 | Power & energy deptt | Yes |
| Forest Statistics | Forest cover statistics of Sikkim | 1987 to 2019 | FSI | Yes |
| Wetlands of Sikkim | Altitude wise no of lakes and area | 2003 and 2020 | Brief Document, SAC, ISRO, Ahmedabad | Yes |
| Mineral Reserves in Sikkim | Status of mineral development in Sikkim | Annual, 2019 | Mines, Mineral and Geology Deptt | Yes |
| Protected Areas of Sikkim | Profile of Wildlife sanctuaries and National Park | 2021 | Forest deptt | Yes |
| Disaster | History of Earthquakes, landslides, forest fires | 2020 | Disaster Mgmt Deptt. Newspapers | Yes |
| Ecotourism | Policy, trek, permits and fees, ecological study | Feb 2021 | Forest deptt | Yes |

8.3. New Databases developed during the Financial Year (2020-21)

8.3.1. Non-numeric Databases:

| Name of Database | Description (in brief) | Data type (descriptive/ graphical/ geospatial/ etc.) | Status of Updation/ Periodicity/ Data Points Compiled (including date/month/year of last data point) | Source(s) of data | Online Availability (Whether uploaded on ENVIS Website) |
|------------------|--|--|--|----------------------------|---|
| Environment | Status Report on impact of lockdown on air quality and status of bio-medical waste management in relation to Covid-19 in Sikkim | Descriptive | April –June 2020 | SPCB | Yes |
| Wildlife | First record to two species ferruginous duck and brown-headed gull in high altitude wetland of Sikkim | Descriptive | February 2021 | Journal of Threatened Taxa | Yes |
| Biodiversity | Pastoralism in the highest peaks – role of the traditional grazing systems in maintaining biodiversity and ecosystem function in the alpine Himalaya | Descriptive | January 2021 | Journal of Threatened Taxa | Yes |
| | Findings of new species and records/ Journals on Sikkim Himalaya | Descriptive | 2021 | Scientific Journals | Yes |
| Pollution | Pictorial Guide on Bio-Medical Waste Management (Covid times) | Descriptive | 2020 | SPCB | Yes |
| | Guidelines for environmental management of dairy farms and gaushalas | Descriptive | 2020 | SPCB | Yes |
| | e-waste, hazardous waste, plastic waste, municipal solid waste annual reports etc | Descriptive | 2016-17 to 2019-20 | SPCB | Yes |
| | Deepawali Noise Pollution Monitoring; State Action plan for control of noise Pollution (draft) | Descriptive | 2020 | SPCB | Yes |
| Forest Resources | Status of forest nurseries of Sikkim | Descriptive | 2020-21 | F&E D | Yes |

8.3.2. Numeric and Time-series Databases:

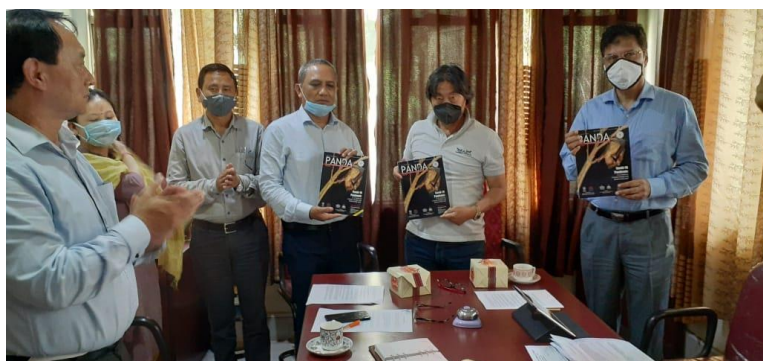
| Name of Database | Description (in brief) | Time Period (Starting year- Ending year) and Periodicity (annual/ monthly/ other) | Source(s) of data | Online Availability (Whether uploaded on ENVIS Website) |
|------------------|--|---|-------------------|---|
| Pollution | AQI of 8 major towns | Weekly till Feb 2021 | SPCB | Yes |
| | River Water Quality | Monthly, 2020 (till Sep) | SPCB | Yes |
| | Deepawali Noise Pollution | 2014 to 2020 | SPCB | Yes |
| Agriculture | Area, Production and Productivity of Major Crops | 2019-20 | Agriculture Deptt | Yes |
| Climate data | Daily weather report and four days forecast of district headquarters (four twons) | Daily basis | IMD | Yes |
| Wildlife | Floral and Faunal species of Sikkim (Updates) | 2020 | Journals | Yes |

8.4. Status of data entry in ISBEID: (For State ENVIS Hubs) – At ANNEXURE -I

9. Information/ Knowledge Products:

9.1. ENVIS Newsletters published during the Financial Year (2020-21):

| Cover snapshot | Quarter/ Volume/ Issue/ Theme Main Articles | Number of copies printed and circulated | URL of the PDF file in ENVIS website |
|----------------|---|---|--|
| | <p>2020 Special Newsletter edition titled PANDA Vol. 12</p> <p>92 paged special edition ENVIS newsletter on scientific research articles on Covid-19 pandemic, linking to climate change and biodiversity loss, bats of Sikkim - Darjeeling Himalaya, Advent of Butterfly Watching in Sikkim, Climate Change perceptions and adaptation strategies along Teesta River basin, An Overview of Pharmaceutical Industries in Sikkim and more</p> | <p>1000 nos (92 Pages)</p> <p><i>Supported by host organization</i></p> | <p>http://sikenvis.nic.in/WriteReadData/Publication/PANDA%202020%20Vol%2012%20Sikkim%20ENVIS%20Hub%2013Aug%202020%20web.pdf</p> |



PANDA 2020 Vol 12, 92 paged special edition ENVIS Sikkim Hub Newsletter being released by Shri Karma Loday Bhutia, the Hon'ble Minister, Forest and Environment Department, Government of Sikkim in presence of senior officers of the department on August 13, 2020 at Tragopan Meeting Room, Forest Secretariat, Gangtok.

Humans have evolved and co-existed with Nature from time immemorial. In this current situation of the so-called 'new normal' amidst the COVID-19 pandemic, we the Humans have many things to learn from Mother Nature. It is omnipresent and will thrive in all forms and more potent than mere human existence. However, the opposite does not hold true. Humans are responsible for rationing and safeguarding our finite natural resources for our future generations.

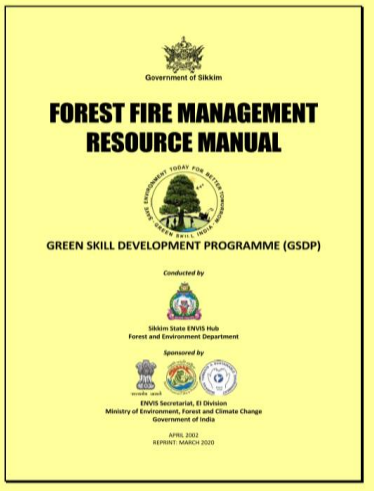

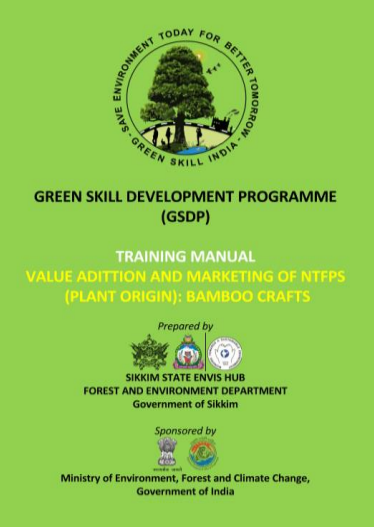
While we preserve ourselves in safe shelters through lockdowns, wild animals have unlocked and traversed their terrestrial perimeter. Some relief can be found in the way the global climate has taken a snooze from the ascending heap of crisis. This is but provisional. As we resume our daily chores and inch towards business as usual, we need to administer positive climate actions to mitigate the global crisis affecting humanity to alleviate the economic inadequacies posed to us during the lockdown.

Now, we do not fully comprehend the value and strength of every life form on earth, be it a miniature living cell or an invisible virus. In this special edition, we attempt to explore and correlate the linkages of the current pandemic with climate change and loss of biodiversity. This issue also provides research and scholarly insights on the vastly rich Himalayan biodiversity and climate change perceptions and adaptation strategies in Sikkim, Himalaya.

| Cover snapshot | Quarter/ Volume/ Issue/ Theme | Number of copies printed and circulated | URL of the PDF file in ENVIS website |
|---|---|---|--|
|  | <p>1st Qtr (Apr-Jun) Vol. 13, Issue 1</p> <p>Covid-19 pandemic – impact of lockdown on air quality, status of biomedical waste management, celebrating time for nature - world environment day, notes on gurjo - <i>tinospora cordifolia</i>, celebrating world bee day, earth day, world otters day, otters of sikkim himalaya, pollinators of sikkim mandarin orange etc</p> | <p>500 nos. (12 Pages)</p> | <p>http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202020-21%20Vol%2013%20Issue%201%20(Apr-June)1.pdf</p> |
|  | <p>2nd Qtr (Jul-Sep) Vol. 13, Issue 2</p> <p>Celebrating Nature, A Day for mother Earth, Stoppage of vehicular movement for 7 minutes on July 7, Pictorial guide on biomedical waste management, guidelines for environmental management of dairy farms and gaushalas, SEIAA, SEAC, World ozone Day, winners of competitive events, Students Solar Ambassador Workshop, Global Solar Yatra, Status Report of Forest Nurseries</p> | <p>500 nos. (12 Pages)</p> | <p>http://sikenvis.nic.in/WriteReadData/Publication/Sikkim%20ENVIS%20Hub%20Newsletter%202020-21%20Vol%2013%20Issue%202%20(Jul-Sep).pdf</p> |
|  | <p>3rd Qtr (Oct- Dec) Vol.13, Issue 3</p> <p>Swachhata campaign, Swachh Hawa - Clean Air Campaign, Minimal Pollution during Deepawali 2020, Ek Kadam Swachhata Ki Ore - Implementation of Swachhata Action Plan 2020-21, Celebration of Constitution Day, Stakeholders meet on Clean Teesta Campaign, Students Solar Ambassador Workshop, Webinar on Role of Youth in attaining Atmanirbhar Bharat, Yeh Diwali Solar Wali -Clean and Green Diwali Campaign, Capacity Building on Green Schools Environment Auditing, Green Skill Development Programme - Advertisement, Excerpt on Human- Asiatic Bear interaction at the fringe villages of KNP</p> | <p>500 nos. (12 Pages)</p> | <p>http://sikenvis.nic.in/WriteReadData/Publication/Sikkim%20ENVIS%20Hub%20Newsletter%202020-21%20Vol%2013%20Issue%203%20(Oct-Dec).pdf</p> |

9.2. Other publications/ information products brought out during the Financial Year (2020-21):

| Cover snapshot | Publication/ Product Theme(s)/ Subject Area(s) | Number of copies printed and circulated | URL of the PDF file in ENVIS website |
|---|---|--|---|
|  | <p>Draft State Action Plan for Control of Noise Pollution under the Noise Pollution (Regulation and Control) Rules, 2000 as amended in 2016 Including Status of action taken by the State</p> | <p>Mostly e-copies circulated 10 copies printed (28 pages)</p> | <p>DRAFT PUBLICATION Not published online. Print copies and e-copies were submitted to line departments and senior officers of the department including SPCB Sikkim and then forwarded to CPCB as per Hon'ble NGT directive</p> |
|  | <p>Brochure: Ten Point Agenda to Implement Green Good Deeds (Reprint)</p> | <p>1000 copies (4 fold brochure)</p> | <p>http://sikenvis.nic.in/WriteReadData/UserFiles/file/Sikkim%20SNA%20GGD%20Brochure.pdf</p> |
|  | <p>GSDP Brochure: Value Addition and Marketing of NTFP Products (Animal Origin) – Wild Beekeeping and Processing (Reprint)</p> | <p>50 copies (3 fold brochure)</p> | <p>Not published online. Print copies used as reference material for GSDP candidates and trainers/ subject experts.</p> |

| Cover snapshot | Publication/ Product Theme(s)/ Subject Area(s) | Number of copies printed and circulated | URL of the PDF file in ENVIS website |
|---|--|---|--|
|  | <p>GSDP Training Manual: Forest Fire Management Resource Manual (Reprint)</p> | <p>30 copies (148 pages)</p> | <p>Not published online. Print copies used as reference material for GSDP candidates and trainers/ subject experts.</p> |
|  | <p>GSDP Training Manual: Sustain and Enhance Technical Knowledge in Solar Energy System (Reprint)</p> | <p>30 copies (225 pages)</p> | <p>Not published online. Print copies used as reference material for GSDP candidates and trainers/ subject experts.</p> |
|  | <p>GSDP Training Manual: Value Addition and Marketing of NTFP Products (Plant Origin) – Bamboo Crafts (Reprint)</p> | <p>30 copies (22 pages)</p> | <p>Not published online. Print copies used as reference material for GSDP candidates and trainers/ subject experts.</p> |

9.3 Information Products published/ released during last five years (2015-16 to 2019-20) excluding 2020-21:

| Information Products published/ released during last five years (2015-16 to 2019-20) | | | | |
|--|---------|---|---|---|
| SN | Year | Publication Title | Theme(s)/ Subject Area(s) | URL of the PDF file in ENVIS website |
| 1. | 2015-16 | Quarterly Newsletter Vol 8 Issue 1 (Apr-Jun) | International Conference on Conservation of Natural and Cultural values of Khangchendzonga National Park, Reconstitution of SEIAA and SEAC Sikkim, ban on firecrackers, ban on slash burning in Sikkim | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202015-16%20Vol%208%20Issue%201%20(Apr-Jun).pdf |
| 2. | | Quarterly Newsletter Vol 8 Issue 2 (Jul-Sep) | Red Panda conservation breeding program in Sikkim, Inception workshop on preparation of 2nd State of Environment Report for Sikkim, Green Teacher's Training for 250 schools of Sikkim, Painting and Essay competition, ozone day, green consumer day | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202015-16%20Vol%208%20Issue%202%20(Jul-Sep).pdf |
| 3. | | Quarterly Newsletter Vol 8 Issue 3 (Oct-Dec) | Safaigiri awards, Gangtok the cleanest hill station, Okharey ecotourism carnival, Living with wildlife, India's INDC to UNFCCC, Science Express Climate Action special | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202015-16%20Vol%208%20Issue%203%20(Oct-Dec).pdf |
| 4. | | Newsletter PANDA Vol 8 Issue 4 <i>Special edition</i> | Yartsa gunbu, Sikkim himalayan rhododendron, pleione, oroxylum indicum, pagolakha wildlife sanctuary, new lake kip tso, isabelline wheatear | http://sikenvis.nic.in/WriteReadData/Publication/Panda%20Vol%208%20Final%202016.pdf |
| 5. | | Paryavaran Mahotsav 2014 | Pictorial book report on fortnightly environment festival of Sikkim June 15-30, 2014 | http://sikenvis.nic.in/WriteReadData/Publication/Sikkim%20Paryavaran%20Mahotsav%202014%20-%20web.pdf |
| 6. | | Handbook on Nature based Festivals of Sikkim | Nature based Festivals of Sikkim | http://sikenvis.nic.in/WriteReadData/Publication/Hand%20Book%20of%20Nature%20Based%20Festival%20of%20Sikkim%2005-06-15%20web.pdf |
| 7. | | Rapid Biodiversity Survey Report -II | Rapid Biodiversity Survey Report of Sikkim- Second Phase | http://sikenvis.nic.in/WriteReadData/Publication/Rapid%20Biodiversity%20Survey%20Report%20-%20II.pdf |
| 8. | | Heritage Trees of Sikkim | Photo album of notified Heritage trees of Sikkim | http://sikenvis.nic.in/WriteReadData/Publication/SIKKIM%20STATE%20HERITAGE%20TREES.pdf |
| 9. | 2016-17 | Newsletter PANDA Vol 9 <i>Special edition</i> | 60 paged special edition ENVIS newsletter on scientific research articles, write-ups, observations and notes on flora, fauna, ecotourism, wildlife, climate change and other important environment issues over the year 2016-17 of Sikkim State. | http://sikenvis.nic.in/WriteReadData/Publication/Sikkim%20ENVIS%20-%20PANDA%20News%20Maganie%20Vol%209.pdf |
| 10. | | Quarterly Newsletter Vol 9 Issue 1 (Apr-Jun) | Paryavaran Mahotsav 2016, Heritage Trees of Sikkim, WIPRO's | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202016-17%20Vol%209%20Issue%201%20(Apr-Jun).pdf |

| Information Products published/ released during last five years (2015-16 to 2019-20) | | | | |
|--|----------------|--|--|---|
| SN | Year | Publication Title | Theme(s)/ Subject Area(s) | URL of the PDF file in ENVIS website |
| | | | Earthian School Programme, Ban on Styrofoam, Ban on Packages Drinking Water Bottles in Government Functions and meetings | Jun).pdf |
| 11. | | Quarterly Newsletter Vol 9 Issue 2 (Jul-Sep) | KNP inscribed as UNESCO's World Heritage Site, Khangchendzonga National Park, Gangtok awarded cleanest tourist destination of India, Landslide at Mantam, Dzongu, North Sikkim | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202016-17%20Vol%209%20Issue%202%20(Jul-Sep).pdf |
| 12. | | Quarterly Newsletter Vol 9 Issue 3 (Oct-Dec) | Sustainable Development Leadership Award to Shri Pawan Chamling Chief Minister of Sikkim, Wildlife Population Estimation Study in Sikkim, Human Wildlife Conflict in Sikkim, Greater Rangit Ecotourism festival | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202016-17%20Vol%209%20Issue%203%20(Oct-Dec).pdf |
| 13. | | Environmental Initiatives of Sikkim 1994-2016 | Environmental Initiatives of Sikkim 1994-2016 | http://sikenvis.nic.in/WriteReadData/Publication/Environmental%20Initiatives%20of%20Sikkim%2015%20Aug%202016.pdf |
| 14. | | Nature's Marvel | A Pictorial Pocket Sized Booklet on the Faunal Diversity of Sikkim | http://sikenvis.nic.in/WriteReadData/Publication/Natures-Marvel.pdf |
| 15. | | Paryavaran Mahotsav 2015 | Activity Book on 'Paryavaran Mahotsav 2015' | http://sikenvis.nic.in/WriteReadData/Publication/Final%20Paryavaran%20Mahotsav%202015.pdf |
| 16. | 2017-18 | Newsletter PANDA Vol 10 <i>Special edition</i> | 60 paged special edition ENVIS newsletter on scientific research articles, write-ups, observations and notes on flora, fauna, ecotourism, wildlife, climate change and other important environment issues over the year. | http://sikenvis.nic.in/WriteReadData/Publication/PANDA%20Vol%2010%202017-18.pdf |
| 17. | | Quarterly Newsletter Vol 10 Issue 1 (Apr-Jun) | <i>Rhododendron abhaya</i> a new species from Sikkim Himalaya, Paryavaran Mahotsav 2017, Chief Minister's Green School Rolling Trophy, World Environment Day, Ten Minutes to Earth, State Green Mission, Smritivan, First Bhairon Singh Shekhawat Lifetime Achievement Award to Sikkim CM, Green Stories from School Eco-Clubs, Nature based festivals of Sikkim, | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202017-18%20Vol%2010%20Issue%201%20(Apr-Jun).pdf |
| 18. | | Quarterly Newsletter Vol 10 Issue 2 (Jul-Sep) | <i>Mucuna laticifera</i> a new species from Sikkim Himalaya, One World Grand Prix Award to Sikkim CM, Organic Sikkim, earthain school programme, ozone heroes, significant findings in new wildlife survey, swachh vidyalaya puraskar, Prakriti Paryavaran Aur hum, Green march, Swachhta Hi Seva, Pictorial map of South Sikkim, Major ginsenoside contents in rhizomes of <i>Panax sokpayensis</i> and <i>Panax bipinnatifidus</i> , | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202017-18%20Vol%2010%20Issue%202%20(Jul-Sep).pdf |

| Information Products published/ released during last five years (2015-16 to 2019-20) | | | | |
|--|----------------|--|---|---|
| SN | Year | Publication Title | Theme(s)/ Subject Area(s) | URL of the PDF file in ENVIS website |
| 19. | | Quarterly Newsletter Vol 10 Issue 3 (Oct-Dec) | Amphibians of Sikkim - Two New Records for the State, Mith Trees, Minimal pollution during Deepawali festival in Sikkim, Ban on Firecrackers, Sidkeong Tulku Bird Park, a flock of broadbill flight turns deadly, Tinjurey a shot nature trek, Popularizing local medicinal plants bhakimlo and mel, Green Teachers Training | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202017-18%20Vol%2010%20Issue%203%20(Oct-Dec).pdf |
| 20. | | Pamphlet on State Government's Initiative on Forestry, Environment and Wildlife Management | Bilingual (English and Nepali) pamphlet especially published as awareness material for newly elected panchayats of the State. | http://sikenvis.nic.in/WriteReadData/UserFiles/file/Sikkim%20Environment%20Initiatives%20English.pdf <i>English</i> http://sikenvis.nic.in/WriteReadData/UserFiles/file/Sikkim%20Environment%20Initiatives%20Nepali.pdf <i>Nepali</i> |
| 21. | | Paryavaran Mahotsav 2016 | Activity Book on 'Paryavaran Mahotsav 2016' | http://sikenvis.nic.in/WriteReadData/Publication/Paryavaran%20Mahotsav%202016.pdf |
| 22. | | White Paper on Forestry, Environment and Wildlife Initiatives of the State Government 1994-95 to 2017-18 | ENVIS was assigned to compile and prepare this comprehensive report for submission to the State Legislative Assembly | Restricted Document (Not published online) |
| 23. | 2018-19 | Newsletter PANDA Vol 11 <i>Special edition</i> | 2019 Special Newsletter edition title PANDA Vol. 11 88 paged special edition ENVIS newsletter on scientific research articles on flora and fauna of Sikkim Himalaya, first ever sighting of Royal Bengal Tiger in Sikkim, exclusive write-ups on Lhonak valley, Lashar valley, Domung gora complex, Green lake and Muguthang expeditions and more | http://sikenvis.nic.in/WriteReadData/Publication/PANDA%20Vol%2011%202019%20(2018-19).pdf |
| 24. | | Quarterly Newsletter Vol 11 Issue 1 (Apr-Jun) | Kalden Singhi Bhutia the only surviving herdsmen of Tibetan highland Sheep from Noth Sikkim, Documentation of ethno-veterinary practices in Sikkim, Observations on the impact of different forest types on hydrology in Sikkim, | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202018-19%20Vol%2011%20Issue%201%20(Apr-June).pdf |
| 25. | | Quarterly Newsletter Vol 11 Issue 2 (Jul-Sep) | Khangchendzonga Biosphere Reserve (KBR) listed in UNESCO's World Network of Biosphere Reserves, <i>Rubus franchetianus</i> an addition to flora of Sikkim | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202018-19%20Vol%2011%20Issue%202%20(Jul-Sep).pdf |
| 26. | | Quarterly Newsletter Vol 11 Issue 3 (Oct-Dec) | Sikkim Government conferred FAO's Future Policy Gold Award 2018 and 6th JRD Tata Memorial Award, Regional workshop on conservation and management of wetlands for north eastern states, Workshop on forest management certification standard, International | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202018-19%20Vol%2011%20Issue%203%20(Oct-Dec).pdf |

| Information Products published/ released during last five years (2015-16 to 2019-20) | | | | |
|--|---------|--|---|---|
| SN | Year | Publication Title | Theme(s)/ Subject Area(s) | URL of the PDF file in ENVIS website |
| | | | symposium on evergreen oak forests of eastern Himalaya, Sikkim participation at International Biodiversity Congress 2018, Ban on use of polythene bags in forest nurseries, Notes on the occurrence of <i>Gentiana karelinii</i> Griseb (Gentianaceae) in Sikkim. | |
| 27. | 2019-20 | Newsletter PANDA Vol 11 <i>Special edition</i> | 2019 Special Newsletter edition title PANDA Vol. 11 88 paged special edition ENVIS newsletter on scientific research articles on flora and fauna of Sikkim Himalaya, first ever sighting of Royal Bengal Tiger in Sikkim, exclusive write-ups on Lhonak valley, Lashar valley, Domung gora complex, Green lake and Muguthang expeditions | http://sikenvis.nic.in/WriteReadData/Publication/PANDA%20Vol%2011%202019%20(2018-19).pdf |
| 28. | | Quarterly Newsletter Vol 12 Issue 1 (Apr-Jun) | Opportunities for Reaping the Benefits of REDD plus in Sikkim Himalaya for Conservation and Enhancement of Carbon Stock, Beat Air Pollution, World Environment Day, Chief Ministers Green School Rolling Trophy, Ambient Air Quality of Sikkim, Green Schools Audit, Plastic Freedom Challenge, Single use plastics, Green Good Deeds, Swachhata Pakwada. | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202019-20%20Vol%2012%20Issue%201%20(Apr-June).pdf |
| 29. | | Quarterly Newsletter Vol 12 Issue 2 (Jul-Sep) | A New Green Initiative - A day for Mother Earth, Floral traits determine pollinator visitation in Rhododendron species across an elevation gradient in the Sikkim Himalaya, Most Exclusive Leisure Product Award (Ecotourism) to Sikkim, Wards Trogon <i>Harpactes wardi</i> in Taal-Kharka East Sikkim, WIPRO Earthian schools programme, 32 years and healing, world ozone day, Swachhata abhiyan, Jal Shakti Abhiyan | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202019-20%20Vol%2012%20Issue%202%20(Jul-Sep).pdf |
| 30. | | Quarterly Newsletter Vol 12 Issue 3 (Oct-Dec) | Challenges for biodiversity conservation, human wildlife conflict, student solar ambassador workshop, Karyanjali - Gandhi Global Solar Yatra, Wildlife conservation and emerging conflicts in Sikkim, Green Skill Development Programmes in Sikkim State, Forest and Tree Cover statistics of Sikkim (Excerpt of State of Forest Report 2019) | http://sikenvis.nic.in/WriteReadData/Publication/ENVIS%20Newsletter%202019-20%20Vol%2012%20Issue%203%20(Oct-Dec).pdf |

10. ENVIS Website : (ENVIS Centres whose Website has been restructured may provide the Performance Report/Graphs generated therein wherever possible):



10.1. URL: www.sikennis.nic.in

10.2. Status of restructuring of Website: Restructured and made live on 26/11/2012

10.3. Frequency of updating Website 2020-21 (as on 31-Mar-2021)

The monthly average frequency of updation for 2020-21 is over **218** updates **per month**. Total **2618** updates have been made during 2020-21 as on 31st of March, 2021. The number of web updates has **increased by 17%** as compared to previous year.

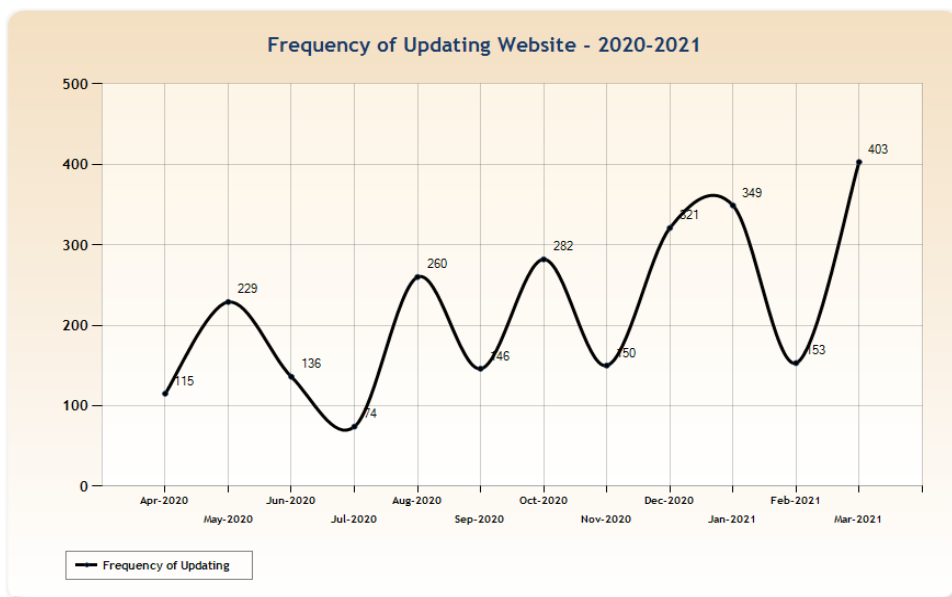


Chart showing frequency of updates month-wise during 2020-21

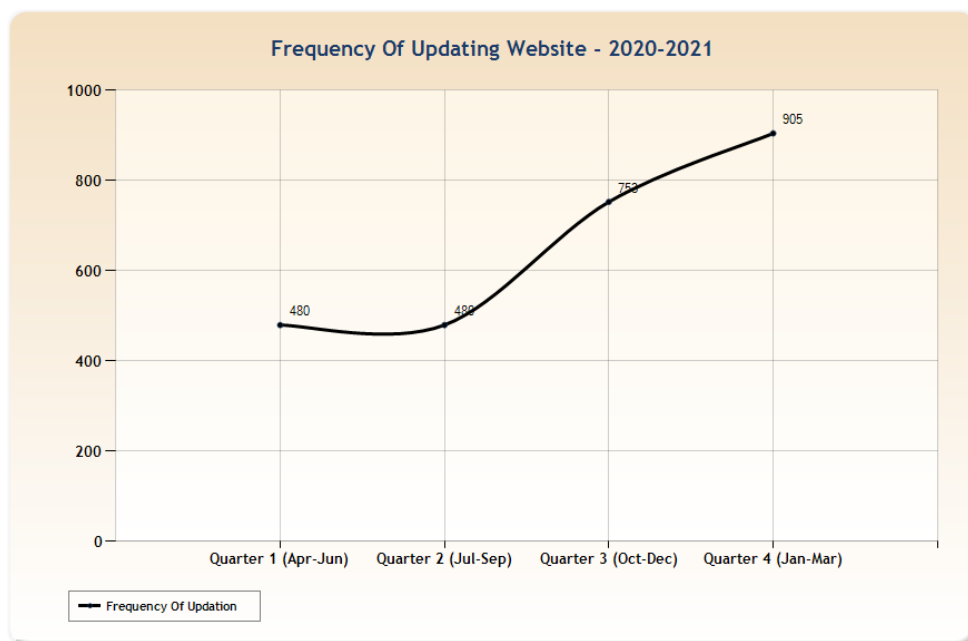


Chart showing frequency of updates quarter-wise during 2020-21

Table showing number of web updates module-wise and quarter-wise during 2020-21

| Quarters | Publications | Subject Area | Bibliography | Major Activity | Upcoming Events | Latest News | Photo Gallery | Frequency of Updating |
|---------------------|--------------|--------------|--------------|----------------|-----------------|-------------|---------------|-----------------------|
| Quarter 1 (Apr-Jun) | 0 | 36 | 380 | 19 | 7 | 12 | 26 | 500 |
| Quarter 2 (Jul-Sep) | 25 | 9 | 378 | 8 | 5 | 24 | 22 | 652 |
| Quarter 3 (Oct-Dec) | 2 | 40 | 680 | 0 | 5 | 19 | 0 | 690 |
| Quarter 4 (Jan-Mar) | 11 | 35 | 809 | 2 | 9 | 15 | 22 | 404 |
| Total | 38 | 120 | 2247 | 29 | 26 | 70 | 70 | 2246 |

10.4. Subject-specific database updation (numeric/ others): 120 updates have been made during 2020-21 as on 31-Mar-2021 alone in the subject-specific database.

10.5. Publication uploaded/ updated on Website: 38 updates (*including journals, pamphlets, newsletters and book publication*)

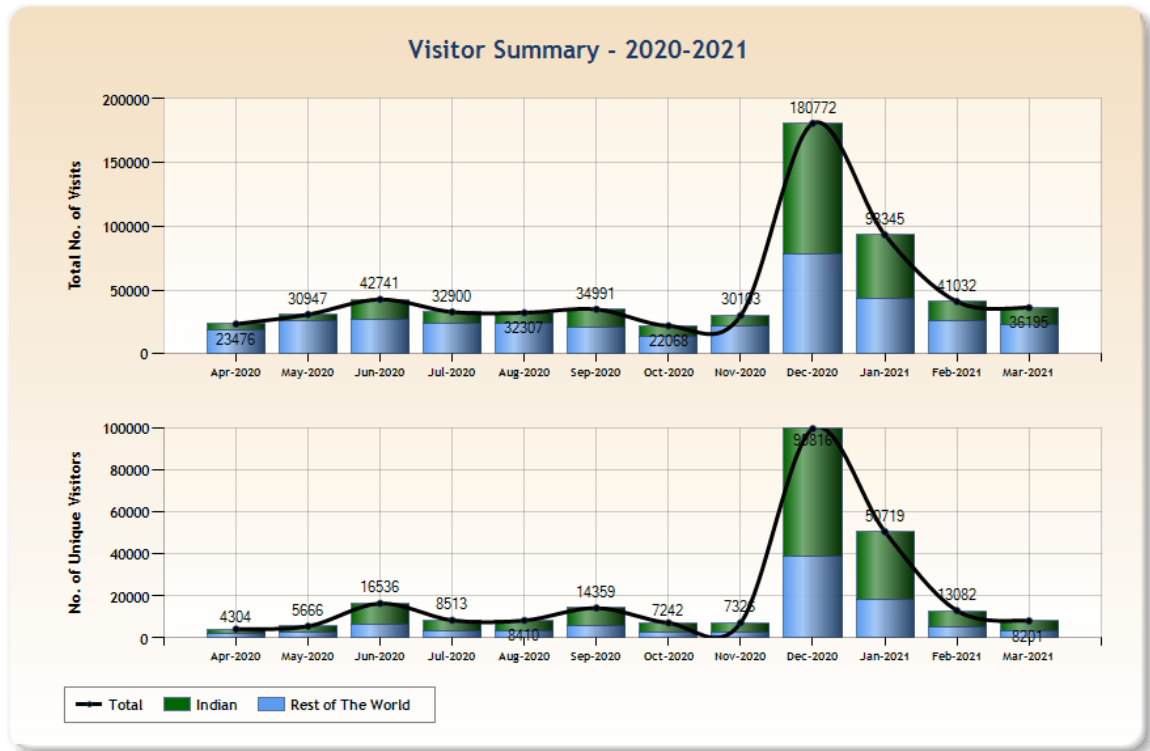
11. User Engagement and Interaction (last three years)

| <i>User engagement and interaction</i> | | <i>FY 2020-21</i> | <i>FY 2019-20</i> | <i>FY 2018-19</i> |
|--|-----------------------------------|-------------------|-------------------|-------------------|
| i. | Total number of visits | 6,00,375 | 3,73,476 | 3,82,427 |
| ii. | Number of unique visits | 2,05,337 | 61,810 | 56,900 |
| iii. | Reports Downloaded/Read | 7,66 | 1,514 | 683 |
| iv. | Total Number of Queries received* | 3813+ | 3632 | 2919 |
| v. | Number of Queries responded* | 3813+ | 3634 | 2918 |

* including offline queries. Detail figures for 2020-21 is made available in section 11.4

11.1 Total number of visits on Website (2020-21): 6,00,375 (As on 31-Mar-2021)

11.2 Number of unique visits on Website (2020-21): 2,05,337 (As on 31-Mar-2021)



The spike in web visits during December-January could be attributed due to number of applicants/ candidates visiting the website for enrolling in GSDP courses.

| Months | Visits | | | Unique Visitors | | |
|---------------------------|--------|-------------------|--------|-----------------|-------------------|--------|
| | Indian | Rest of the world | Total | Indian | Rest of the world | Total |
| Apr-2020 | 4225 | 19253 | 23476 | 1967 | 2337 | 4304 |
| May-2020 | 5069 | 25882 | 30947 | 2748 | 2918 | 5666 |
| Jun-2020 | 16003 | 26764 | 42741 | 9873 | 6663 | 16536 |
| Jul-2020 | 8488 | 24418 | 32900 | 4896 | 3617 | 8513 |
| Aug-2020 | 8632 | 23680 | 32307 | 4861 | 3549 | 8410 |
| Sep-2020 | 13941 | 21068 | 34991 | 8380 | 5979 | 14359 |
| Oct-2020 | 8883 | 13191 | 22068 | 4212 | 3030 | 7242 |
| Nov-2020 | 8247 | 21859 | 30103 | 4449 | 2877 | 7326 |
| Dec-2020 | 102468 | 78398 | 180772 | 60920 | 38896 | 99816 |
| Jan-2021 | 50396 | 42996 | 93345 | 32527 | 18192 | 50719 |
| Feb-2021 | 14773 | 26262 | 41032 | 7947 | 5135 | 13082 |
| Mar-2021 | 13567 | 22639 | 36195 | 4944 | 3257 | 8201 |
| 01 Apr 2020 – 31 Mar 2021 | 254360 | 346271 | 600375 | 126923 | 78414 | 205337 |

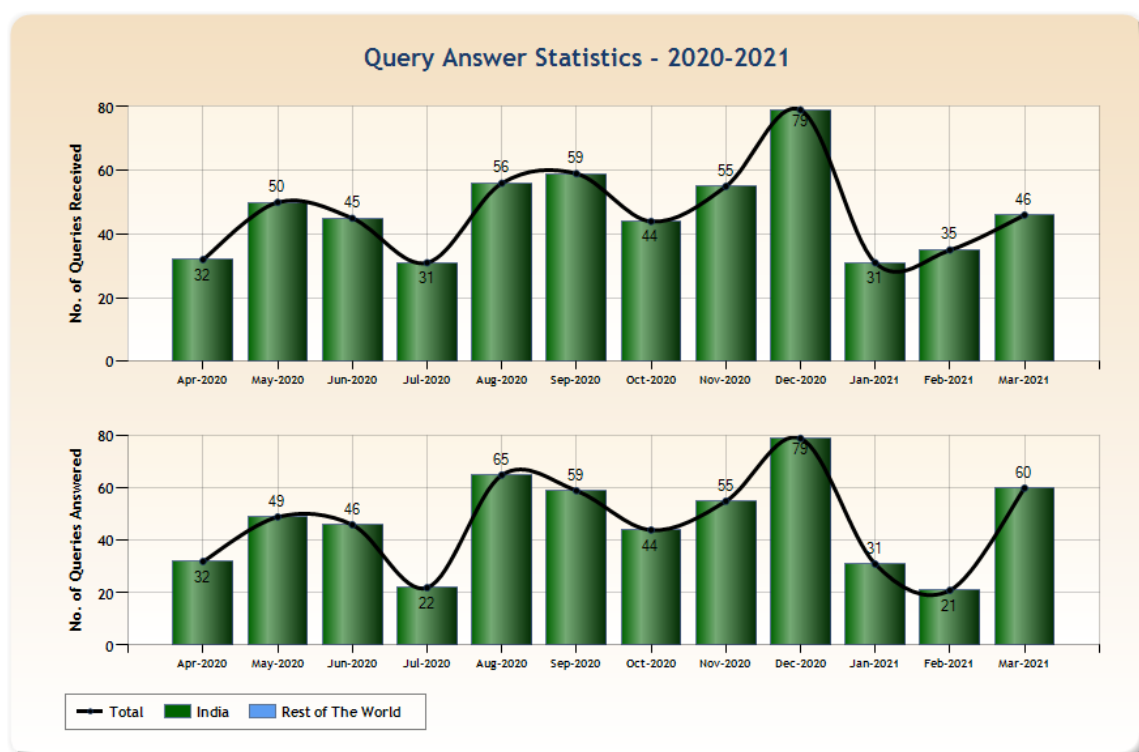
11.3 Number of reports downloaded/ read by stakeholders:

Total **766** downloads (*through user login section only*) have been observed during 2020-21 in which over 76% of the downloadable items have been accessed from the subject area module and about 23% of the items have been downloaded from the publications module. However, this figure is only restricted to sections of the website which require user login. The actual download figures is expected to be much more higher since 80% of the downloadable content of the website especially the frequently visited subject area, latest news, major activities etc have been uploaded with direct download option for enhancing the user accessibility.

| Year | Publications | Subject Area | Others | Report Read/Downloaded |
|---------------------------|--------------|--------------|--------|------------------------|
| 01 Apr 2020 - 31 Mar 2021 | 176 | 589 | 1 | 766 |

11.4 Query-Answer Statistics 2020-21:

| Mode of Query Receipt | Number of Queries Received | Number of Queries Responded | Reasons for shortfalls, if any, and action taken to rectify |
|--|----------------------------|-----------------------------|---|
| Online (CMS based website) | 563 | 563 | - |
| Email (official NIC server) | 2500+ | 2500+ | - |
| Postal/Telephonic (incl. hand post) | 450 | 450 | - |
| Physical (In person visits) | 300 | 300 | - |
| Total | 3813+ | 3813+ | |



(Online query response graphical statistics 2020-21 – Month-wise)

12. Quarter-wise Output-Outcome Indicator Report submitted for NITI Aayog Monitoring Dashboard

ENVIS HUB SIKKIM STATE 2020-21: 1st QTR Report (April-June)

| Q1 | Q2 | Q3 | Q4 |
|--------------|----|----|----|
| Rs. 3,59,640 | | | |

| Sr. No. | Indicator Name | Description | Target | Achieved YTD |
|---------|---|--|--------|--------------|
| 1. | Number of information/knowledge products developed. | It includes Newsletter, Publications, Poster, Brochure, Books etc. | 2 | 2 |
| 2. | Number of thematic maps developed. | Theme based digital maps related to environmental sector | 3 | 3 |
| 3. | Number of Mobile Apps developed. | Development of new mobile app for a particular quarter. Updation of existing mobile app cannot be mentioned in this indicator. | 0 | 0 |
| 4. | Number of youth skilled under various green skilling programmes. | Skilled youth under GSDP | 0 | 0 |
| 5. | Increase in number of downloads of mobile apps from the websites of individual ENVIS Centres, over previous year, by all stakeholders - students, researchers, policy makers, general public etc. | Mobile App downloaded from the ENVIS Hub/RP Website. | 0 | 0 |
| 6. | Increase in number of analytical reports generated from the MIS database by ENVIS Hubs over previous year. | Analytical reports generated based on ISBEID database | 4 | 4 |
| 7. | Number of skilled youth employed after completing the certificate programmes. | Skilled youth employed under GSDP | 90 | 86 |
| 8. | Increase in number of downloads of environmental information products, kits and maps. | No. of Downloads from ENVIS website | 116 | 194 |

ENVIS HUB SIKKIM STATE 2020-21: 2nd QTR Report (July-September)

| Q1 | Q2 | Q3 | Q4 |
|--------------|--------------|----|----|
| Rs. 3,59,640 | Rs. 3,59,640 | | |

| Sr. No. | Indicator Name | Description | Target | Achieved YTD |
|---------|---|--|--------|--------------|
| 1. | Number of information/knowledge products developed. | It includes Newsletter, Publications, Poster, Brochure, Books etc. | 1 | 2 |
| 2. | Number of thematic maps developed. | Theme based digital maps related to environmental sector | 0 | 0 |
| 3. | Number of Mobile Apps developed. | Development of new mobile app for a particular quarter. Updation of existing mobile app cannot be mentioned in this indicator. | 0 | 0 |
| 4. | Number of youth skilled under various green skilling programmes. | Skilled youth under GSDP | 0 | 0 |
| 5. | Increase in number of downloads of mobile apps from the websites of individual ENVIS Centres, over previous year, by all stakeholders - students, researchers, policy makers, general public etc. | Mobile App downloaded from the ENVIS Hub/RP Website. | 0 | 0 |
| 6. | Increase in number of analytical reports generated from the MIS database by ENVIS Hubs over previous year. | Analytical reports generated based on ISBEID database | 1 | 1 |
| 7. | Number of skilled youth employed after completing the certificate programmes. | Skilled youth employed under GSDP | 0 | 0 |
| 8. | Increase in number of downloads of environmental information products, kits and maps. | No. of Downloads from ENVIS website | 100 | 172 |

ENVIS HUB SIKKIM STATE 2020-21: 3rd QTR Report (October-December)

| Q1 | Q2 | Q3 | Q4 |
|--------------|--------------|--------------|----|
| Rs. 3,59,640 | Rs. 3,59,640 | Rs. 4,58,140 | |

| Sr. No. | Indicator Name | Description | Target | Achieved YTD |
|---------|---|--|--------|--------------|
| 1. | Number of information/knowledge products developed. | It includes Newsletter, Publications, Poster, Brochure, Books etc. | 1 | 1 |
| 2. | Number of thematic maps developed. | Theme based digital maps related to environmental sector | 0 | 0 |
| 3. | Number of Mobile Apps developed. | Development of new mobile app for a particular quarter. Updation of existing mobile app cannot be mentioned in this indicator. | 0 | 0 |
| 4. | Number of youth skilled under various green skilling programmes. | Skilled youth under GSDP | 0 | 0 |
| 5. | Increase in number of downloads of mobile apps from the websites of individual ENVIS Centres, over previous year, by all stakeholders - students, researchers, policy makers, general public etc. | Mobile App downloaded from the ENVIS Hub/RP Website. | 0 | 0 |
| 6. | Increase in number of analytical reports generated from the MIS database by ENVIS Hubs over previous year. | Analytical reports generated based on ISBEID database | 2 | 2 |
| 7. | Number of skilled youth employed after completing the certificate programmes. | Skilled youth employed under GSDP | 0 | 0 |
| 8. | Increase in number of downloads of environmental information products, kits and maps. | No. of Downloads from ENVIS website | 100 | 242 |

ENVIS HUB SIKKIM STATE 2020-21: 4th QTR Report (January-March)

| Q1 | Q2 | Q3 | Q4 |
|--------------|--------------|--------------|--------------|
| Rs. 3,59,640 | Rs. 3,59,640 | Rs. 4,58,140 | Rs. 8,70,289 |

| Sr. No. | Indicator Name | Description | Target | Achieved YTD |
|---------|---|--|--------|--------------|
| 1. | Number of information/knowledge products developed. | It includes Newsletter, Publications, Poster, Brochure, Books etc. | 1 | 1 |
| 2. | Number of thematic maps developed. | Theme based digital maps related to environmental sector | 0 | 0 |
| 3. | Number of Mobile Apps developed. | Development of new mobile app for a particular quarter. Updation of existing mobile app cannot be mentioned in this indicator. | 0 | 0 |
| 4. | Number of youth skilled under various green skilling programmes. | Skilled youth under GSDP | 85 | 85 |
| 5. | Increase in number of downloads of mobile apps from the websites of individual ENVIS Centres, over previous year, by all stakeholders - students, researchers, policy makers, general public etc. | Mobile App downloaded from the ENVIS Hub/RP Website. | 0 | 0 |
| 6. | Increase in number of analytical reports generated from the MIS database by ENVIS Hubs over previous year. | Analytical reports generated based on ISBEID database | 1 | 1 |
| 7. | Number of skilled youth employed after completing the certificate programmes. | Skilled youth employed under GSDP | 85 | 75 |
| 8. | Increase in number of downloads of environmental information products, kits and maps. | No. of Downloads from ENVIS website | 100 | 158 |

13. Implementation of Annual Plan of Activities of the Financial Year (2020-21):**Major Activities of Sikkim ENVIS Hub during 2020-21 as per the Mandate of ENVIS Scheme**

Sikkim ENVIS Hub hosted at Forest and Environment Department, Government of Sikkim handles the following areas of work as per the mandate related to the revamped ENVIS Scheme after termination of the XIIth Five Year Plan.

1. Repository of Environmental Knowledge, Publications and Dissemination:

Sikkim ENVIS Hub collects/ collates/ compiles/ disseminates information pertaining to ‘Status of Environment and Its Related Issues’ of Sikkim State and its adjoining Himalayan region.

- During 2020-21 Sikkim ENVIS Hub has published three issues of Quarterly Newsletter and one special 92 paged special Newsletter edition “PANDA Vol 12” which has gained popularity and is high in demand amongst students, academicians, research scholars, officers and public across the country. About 40 research articles published in various scientific journals during current year has been consented by respective authors for online hosting at ENVIS website www.sikenvis.nic.in
- Sikkim ENVIS Hub is currently working on its mandated publication ‘State of Environment Report 2021’. Sikkim ENVIS Hub has prepared and published State of Environment Report 20007 and 2016.
- Collation of secondary information relating to state environmental issues from 40 plus line departments have been centralized in ENVIS website’s subject area generic database.
- **1073** Nos of discrete data has been updated in ISBEID (Indian State-level Basic Environmental Information Database) during 2020-21. Till date about **9000** updates have been made in ISBEID since inception.
- Sikkim ENVIS Hub has its exclusive library which houses more than 4000 books, reports and scientific/ research based articles with searchable online database.
- Total **2618** updates have been made in ENVIS website www.sikenvis.nic.in during 2020-21 (as on 31/03/2021)
- Sikkim ENVIS Hub’s knowledge products are disseminated widely amongst target groups such as politicians, bureaucrats, policy and decision makers, officers, students, research scholars, network of 856 eco-clubs at schools and colleges across the state, and general public through online and print media as well wherever necessary.
- **Query Response System and Web Statistics [for 2020-21 as on 31/02/2021]:**

| | |
|--|-------------|
| No. of Website Visits | : 6,00,375 |
| No. of Website Unique Visitors | : 2,05,337 |
| No. of Web update | : 2,618 |
| No. of Publication updated | : 38 |
| No. of ISBEID updates | : 1,073 |
| No. of Online Queries Answered/ Received | : 563 / 563 |

2. Green Skills Development Programme (GSDP):

To instil green skills in environment, forest and wildlife sectors and enable the aspiring youths to be gainfully employed or self-employed, Sikkim ENVIS Hub has successfully implemented GSDP on four certified courses of NSQF level 5 viz (1) Forest Fire Management- 300 Hrs - 20 candidates, (2) Bamboo Crafts - 400 Hrs - 20 candidates, (3) Wild Beekeeping and Processing- 200 Hrs - 25 candidates and (4) Solar Energy Systems- 240 Hrs - 20 candidates

- During FY 2020-21, total 85 candidates were enrolled on the above four courses which was conducted during January-March 2021. Out of 85 candidates 75 candidates have successfully been employed and self-employed as on 31st March 2021.
- During last FY 2019-20, total 90 candidates successfully completed the training, out of which 86 candidates have already been employed/ self-employed.
- Sikkim ENVIS Hub has successfully set up partnership with resource and enterprise agencies such as Sikkim Marketing Federation (SIMFED), Directorate of Handloom and Handicraft, Sikkim Khadi and Village Industries Board, JFMCs/ EDCs, Disaster Management and Mitigation entities, Sikkim Renewable Energy Development Agency (SREDA) and other government and autonomous entities for supporting the green skilled candidates for their employment, entrepreneurship and marketing ventures post training.
- GSDP programme in Sikkim State has received righteous attention amongst the unemployed youths and is now closely monitored as one of effective welfare schemes directly by the Chief Minister's Office as well.

Detailed Report on GSDP Activities 2020-21 is at Annexure - III

3. Grid Based Decision Support System (GRIDSS) - for Sustainable Management of Natural Resources (National Environment Survey – NES):

Sikkim ENVIS Hub is currently working on district-level National Environment Survey at 2 (two) district viz **East Sikkim** and **North Sikkim** for preparation of 5km x 5 km and 9km x 9km grid based maps on standard environmental parameters.

- Two Districts namely East Sikkim and North Sikkim has been selected. Secondary data on 24 modules of the NES-GRIDSS have been collected and compiled. District profile data has been assembled.
- Base layer 9km x 9km grid maps on forest density, water bodies, village map, reserve forest, PAs etc have been prepared and mapped with spatial data on forest fire cases, human wildlife conflict, pollution parameters etc.

Detailed Report on NES Module is at Annexure - II.

4. Extension & Outreach Programmes:

Sikkim ENVIS Hub conducted numerous awareness and sensitization activities for general public and various target groups across the State. The year 2020-21 being impacted by covid-19 pandemic, Sikkim ENVIS Hub conducted several online and field-based activities related to covid-19 awareness to ensure precautionary measures and actions for containment of its spread in local community. Sikkim ENVIS Hub supported and participated in Government's (Center and State) plan of action in this regard.

Covid related Activities conducted during 2020-21 include:

- Celebrating 50th Year of Earth Day - Climate Action with Covid Awareness, Sikkim ENVIS Hub organized online event during April 1-22, 2020 to spread awareness amongst the public through students as catalyst. About 200 students voiced their climate action with covid awareness amongst locality. Online paintings and short videos were prepared by students. Two Sikkim State Students were also adjudged 2nd and 3rd by MoEF&CC in the national level competition.
- Sensitization on proper safety measures in handling bio-medical waste in partnership with State Pollution Control Board was organized during May 4-27, 2020 for about 100 frontline workers of covid-care and quarantine facilities.
- Online competition in paintings, essay writings, photography, short videos for students and general public on 'Himalayan Biodiversity and Covid' was organized during May 26- June 5, 2020 which recorded about 2200 participants. Cash awards up to Rs 20,000 for best entries were provided by the host organization and presented by the Hon'ble Chief Minister of Sikkim on the occasion of World Environment Day and Van Mahotsav.
- Webinar on 'Climate Change and Covid-19' was conducted on July 22, 2020 as a part of lecture series on covid-19 with linkages to climate change and biodiversity loss. The insights of the webinar was published in an article in Sikkim ENVIS special edition 92 paged newsletter PANDA and was released during August 2020.
- As a support to Swachhata Abhiyan and as a part of **Community-driven Environmentally Sustainable Village Programme (CESVP)**, Sikkim ENVIS Hub conducted several cleanup and sanitization drives at 40 plus urban rural locations across the State duly propagating Green Good Deeds while distributing hand sanitizers, face masks and gloves to the needy and underprivileged. The activities focused on covid awareness, implementation of covid-SOPs along with covid-waste management and sensitization on curbing the use of Single Use Plastics.
- Celebrating National Cleanliness day on January 30, 2021, Sikkim ENVIS Hub conducted Covid awareness and sensitization along with clean up drives at two urban locations of Gangtok viz Pani house area and Tadong Phewa Busty area. Around 300 volunteers from local public and local associations participated in the campaign where hand sanitizers, gloves, face masks and waste segregation bins were distributed.

Other Extension and Outreach Activities conducted during 2020-21 include:

- Celebrated World Bee Day 2020 (May 20) wherein 25 beekeepers (GSDP products of 2019-20 batch) carried out social media awareness drives highlighting the importance of traditional knowledge related to beekeeping, the use of bee-derived products and services, and their importance in achieving the SDGs.
- Celebrated World Otters Day 2020 (May 27) through online poster campaigns / social media activities wherein sensitization about Himalayan otters was conducted. Out of 13 species in the world, Sikkim is home to 3 species which was highlighted in the poster and later published in ENVIS quarterly newsletter as well.
- Celebrated 'A Day for Mother Earth' on July 7, 2020 with mass public awareness drive which was participated by 5000+ people. Sikkim ENVIS Hub propagated the campaign that witnessed state-wide stoppage of vehicles for 7 minutes from 11am to 11.07am on July 7, 2020 along with mass public participation in plantation and cleanup drives.
- A 20 minute State level Online Quiz Competition organized by Sikkim ENVIS Hub to

commemorate World Ozone Day 2020 (September 16) from 1pm to 1.20pm. The event was participated by about 400 students/general public. 40 participants scored 100/100. The average marked scored was recorded as 66.41/100. All participants were issued e-certificates to appreciate their participation which were accessible from ENVIS Website www.sikenvvis.nic.in under Major Activity Section.

- Global Solar was organized with several events such as Webinars for Youth, Students Solar Ambassador Workshop, Competitive events, #YehDiwaliSolarWali campaign etc as a global clean environment to commemorate the birth anniversary of Mahatma Gandhi during Oct 2 – No 20, 2020. About 500 students and youths from across the state participated in the campaign. **Sikkim ENVIS Hub was felicitated with ‘Certificate of Appreciation’ by the Energy Swaraj Foundation, Mumbai for successful event.**
- Online training for 120 green teachers on ‘Green Schools Environment Auditing’ was organized on November 5-6, 2020 in partnership with Centre for Science and Environment, New Delhi. The Green Schools Program on Environment Auditing was introduced to 120 schools focusing on six key themes viz air, water, land, energy, waste and food for sustainable practices and efficient environment management at schools.
- SwachhaHawa Campaign - Harit Diwali Swasth Diwali- Clean Air Campaign - November, 2020:Sikkim ENVIS Hub in collaboration with several line departments and stakeholders, Taxi Driver’s Association, urban and local bodies across the State conducted month-long [Nov 9-30] swachhata activities such as clean up drives, sensitization on clean air, household waste segregation and management, awareness on covid-19 precautionary measures, social media activities, video appeal of Hon’ble Minister, broadcasting of jingles through FM, propagation of Green Good Deeds etc.
- Constitution Day also known as *Samvidhan Divas* was celebrated on 26th November, 2020 to promote constitution values among citizens in coordination with school/ college eco-clubs and other stakeholders across the State.
- Online Training on ‘Conservation Education’ for eco-club in-chargers was organized on December 27-28, 2020 in partnership with CASFOS, Dehradun.
- Celebrated National Cleanliness Day and Martyr’s Day/ Saheed Diwas on January 30 to February 5, 2021 at Gangtok premises with cleanup and sensitization drive, propagation of Green Good Deeds and curbing the use of single-use plastics.
- Sikkim ENVIS Hub has been playing a key role in compiling PAN India Covid and Non-Covid activities of ENVIS Hubs and RPs across the country.
- Sikkim ENVIS Hub in partnership with CPREEC ENVIS RP, Chennai is currently working in compiling and scrutiny of research articles on ‘Ecological Traditions’ of Sikkim and India.
- Facilitated and coordinated in conducting PCRA online quiz, essay and painting competitions for students of class VII to X on energy conservation.
- Celebrated World Wetlands Day on February 2, 2021 in coordination with Environment and Soil Conservation Divisions across the State at high altitude lakes and conducted lakeside clean up and sensitization drives.
- Celebrated National Science Day on February 28, 2021 in coordination with School eco-Clubs with activities such as seminars, quiz and essay writing competitions

Detailed report on Gist of activities on awareness, education, training and outreach activities is given at Section 18.

5. Networking or collaborations done at State, National or International level:

Sikkim ENVIS Hub during 2020-21 has collaborated with these organizations –

- *For GSDP* - Sikkim Khadi and Village Industries Board, SIMFED, State Biodiversity Board, Forest Department, Directorate of Handloom and Handicraft, JFMCs/ EDCs, Disaster Management and Mitigation entities, SREDA, Power Department, NIELIT Gangtok, SMIT Majhitar and other government/ autonomous entities.
- *For Environment Education* – CSE, New Delhi; Earthian WIPRO Bengaluru, Echo India, Energy Swaraj Foundation, IIT Bombay, EE and SSB Divisions of MoEF&CC.
- *For Environment Awareness* – NGOs, Taxi Driver’s Associations, Urban and Local Bodies, Municipal Bodies, Police, Health, SPCB etc
- *For Knowledge Products* – CPREEC ENVIS RP Chennai for publication of ‘Ecological Traditions of Sikkim and India.
- *For ISBEID/ NES GRIDSS* – 40 + line departments of the State.

6. EAT Entries in PFMS

Sikkim ENVIS Hub has separate account mapped in the name of ‘State Environment Agency’ for ENVIS Scheme [2401]. All expenditures are booked through PFMS.

| FY 2018-19 | FY 2019-20 | FY 2020-21 |
|----------------|----------------|--|
| All up to date | All up to date | Up to date as on 31.03.2021 Current balance is Rs. 0.00 All funds have been successfully utilized and updated through EAT module in PFMS |

Photographs

ENVIS Publications 2020-21



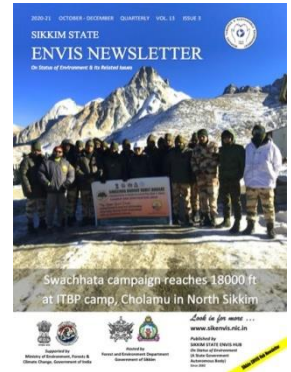
92 paged special edition
January-March 2020



12 paged
April-June



12 paged
July-September



12 paged
October-December



**Launching of GSDP on four Courses on February 8 & 11, 2021
by the Hon'ble Minister Forest Shri Karma Loday Bhutia**

Recent Extension and Outreach Activities (January 30 – February 5, 2021)



Before Pic: Clogged Jhora/
Nallah at Panihouse
premise, Gangtok



After Pic: Jhora/
Nallah
cleared up after
sensitization drive

Activities: Propagation of Green Good Deeds, distribution of ENVIS Knowledge Products, Covid-awareness, waste segregation at source, curbing the use of single-use plastics, cleanup drives.

| Activity/ Target | Achievements | Shortfalls, if any, and reasons therefore |
|--|--|---|
| OTHER REGULAR ACTIVITIES IN ACCORDANCE TO ENVIS ONGOING MANDATE : 2020-21 | | |
| A. Regular Activities: Web-based Environmental Information | | |
| Collection and Compilation of Information and Data | | |
| i. Development and regular updation of <i>databases</i> (descriptive, numeric, pictorial, geospatial, etc.) on the assigned subject area and regular uploading of the same in the <i>Subject Area</i> section of the ENVIS Website, after due verification/ authentication, with suitable referencing of data sources. | 120 number of updates done in the subject area module of the website during 2020-21 as on 31-Mar-2021. The information content of the subject area is quoted with authentic sources. | |
| ii. Compilation of <i>Abstracts, Bibliography, News articles, Events, etc.</i> on the subject area and uploading the same in the relevant section of ENVIS Website. | 2247 bibliography, 38 journals/ abstracts and other publications uploaded in the website. | |
| iii. Identification of data gaps and formulation with implementation of action plan to fill them. | 1073 new data updates on ISBEID made. | |
| Maintenance of ENVIS Website and User Engagement | | |
| iv. Maintaining the ENVIS Website up-to-date and user-engaging, and as an inventory of authentic and reliable information in the subject area | Centre's website has been kept up-to-date with frequency of updates averaging to over 218 updates per month. The website has now been migrated to NIC cloud server. | - |
| v. Query-Response/ Referral service to stakeholders. | 3813 online, postal, email and in-person queries have been handled by the ENVIS Hub during 2020-21. | - |
| vi. Developing and upgrading a Kids' Corner. | Kids corner has been made interactive by uploading quiz section, video gallery and monthly environmental activity highlights and so on. | Kids corner section of the website needs attention of web admin at the server for resolving technical issues. |
| vii. Maintaining a disaggregated record of visitors, including unique visitors, to the Website. | Website is designed to automatically record visitor's log and is reflected in the performance chart. | - |
| Maintenance of ISBEID and Preparation of State of Environment (SoE) Reports | | |
| viii. Development of time series ISBEID databases on 17 parameters (except the ones that are irrelevant to the State Centre | Time series data are regularly fed in the ISBEID system. Total 1073 number of updates were made during 2020-21 alone. Till date more than 9000 updates have been made in the ISBEID module since inception | |

| Activity/ Target | Achievements | Shortfalls, if any, and reasons therefore |
|--|--|--|
| ix. Completing, updating ISBEID, notably by resolving the problem of lack of conformity between format of data available with State departments and ISBEID proformas. | Exhaustive exercise undergone by the centre to extract data compatible to ISBEID format from the reports collected from the secondary sources. All the modules relevant to Sikkim have data now. | |
| x. Devising a mechanism for sourcing for ISBEID data on a continuous basis from State Departments concerned and relevant survey and research institutes country-wide. | Nodal officers from the line departments have been designated. Workshop cum meeting of stakeholders and line departments are organized to exchange of information on regular basis. | |
| xi. Referencing and indexing of sources data in ISBEID. | Sources of data in ISBEID are mentioned appropriately. | - |
| xii. Publishing State of Environment (SoE) Reports for the concerned State/UT with a periodicity of two over a five-year period. | SoE Report 2016 Sikkim has been prepared and published. The report is available in ENVIS website www.sikenvis.nic.in Sikkim ENVIS Hub is currently working on SoE Report and State Environment Atlas 2021/2022. | - |
| xiii. Publishing State of Environment (SoE) Reports for metro cities and hotspots. | Proposal for Ecological Hotspot Study of Gangtok City is in consideration and will be duly submitted to the ministry during 2021-22 | Proposal could be submitted during 2020-21 due to Covid-19 lockdown. Hence was deferred. |
| Publications and Value-Addition | | |
| xiv. Publishing 4 <i>Newsletters</i> and uploading the same in the relevant section of ENVIS Website. | Quarterly newsletter published and circulated country wide. | |
| xv. Processing/ analyzing data collected and bringing out value-added information Products | Data collected and analysis report is being regularly published ENVIS newsletter and special publications. | |
| xvi. Collecting books, reports and journals on the subject area; Uploading e-versions of books, reports, journals etc. on the ENVIS Website. | More than 700 e-version of the publications relating to status of environment collected from various government sources and published online. ENVIS Hub Sikkim has been hosting environment related government publications of the State. | |
| Reaching-out/Networking Activities | | |
| xvii. Liaison and coordination with other relevant ENVIS Centres, both State Centres and Thematic Centres, for providing data/ information links in the relevant part of the | Duplicity of information in the website is carefully being handled. ENVIS Hub is referring to data and information available with other centres and hyperlinks have been placed accordingly. | |

| Activity/ Target | Achievements | Shortfalls, if any, and reasons therefore |
|---|--|---|
| ENVIS Website (to avoid duplication and conflicts in uploaded information). | | |
| xviii. Build linkages with other information sources in the country and abroad. Providing hyperlinks to the information sources in the relevant part of the ENVIS Website. | Hyperlinks to other information sources have been placed in relevant web contents. | |
| xix. Maintaining a list of Experts in the subject area and uploading the same | List of experts updated in the website | |
| xx. Coordination with the Ministry for timely dissemination of relevant and adequate information to stakeholders. | Centre is in frequent communication with the ENVIS Secretariat and other divisions in the ministry for upkeep of information and dissemination. | |
| xxi. Formulate strategic plans to generate sources of funds from corporate sector and/ or through subscriptions of Newsletters/ other publications | Sikkim ENVIS Hub was supported by WIRPO Bengaluru, CSE New Delhi during 2020-21, IIT Bombay, Energy and Swaraj foundation Mumbai for promoting environment education in about 500 schools of Sikkim State. | |
| B. SPECIAL ACTIVITIES | | |
| xxii. Focus on database development (numeric and descriptive), with due authentication in consultation with Line Departments/ research institutes, etc. | Sikkim ENVIS Hub is already in sync with more than 50 line departments/ agencies/ stakeholders for collection and collation of data and information. | |
| xxiii. Network and undertake outreach activities with Universities/ Research bodies/ researchers in the State, so that the ENVIS collections/ repositories can be enriched. | Sikkim ENVIS Hub is a State Nodal Agency for promoting environment education with a network of 856 Eco-Clubs at 838 schools and 18 colleges. ENVIS Hub has been networking with local stakeholders, NGOs, Universities and line departments, subject experts in several research based activities. | |
| xxiv. Circulate Newsletters and knowledge products to as many stakeholders as possible in the State, especially policy makers/ planners. | Around 2500 copies of quarterly newsletters and other publications have been circulated to ENVIS partners, Sikkim schools, line departments, stakeholders, etc. | |
| xxv. Link its Website to other Government Websites; develop the vernacular | Linkages developed with line department websites and other government websites as mandatory activity of the centre. | |

| Activity/ Target | Achievements | Shortfalls, if any, and reasons therefore |
|---|--|---|
| Website; and undertake other awareness enhancing activities within the State. | | |
| xxvi. Maintain a Register for keeping track of queries received and transferred/ answered. | A separate log register is kept at the centre to record visitors, queries and feedback. | |
| xxvii. Build institutional repositories of various types of media related to environmental issues. | Sikkim ENVIS Hub has a library that houses more than 4000 reports and publications including DVD and media collection on environment issues. | |
| xxviii. Bring out a Brochure on environmental issues to spread awareness about World Environment Day, focusing on forestry/ mining/ Climate Change/ disasters/ etc. | Sikkim ENVIS Hub has published several pamphlets, brochures on events and places for quick information for the users. Visitors to the ENVIS Hub are always gifted with such items. | |

14. New Initiatives taken during the Financial Year (2020-21):

The FY 2020-21 though being affected by Covid-19 pandemic and lockdown, Sikkim ENVIS Hub took several new initiatives through online and offline mode for disseminating environmental information, education, awareness and training of various target groups on issues of environment and its related issues pertaining to the State of Sikkim and Himalayan Region.

- ✓ **Facilitated and Conducted fresh batch of green skill training to 85 candidates** under Green Skill Development Programme (GSDP) on four certificate courses viz. Wild Beekeeping and Processing, Forest Fire Management, Sustain and Enhance Technical Knowledge in Solar Energy Systems and Bamboo Crafts. A total of 85 candidates were trained, out of which 75 candidate are already entrepreneurs/ self-employed /in job as on 31.03.2021.



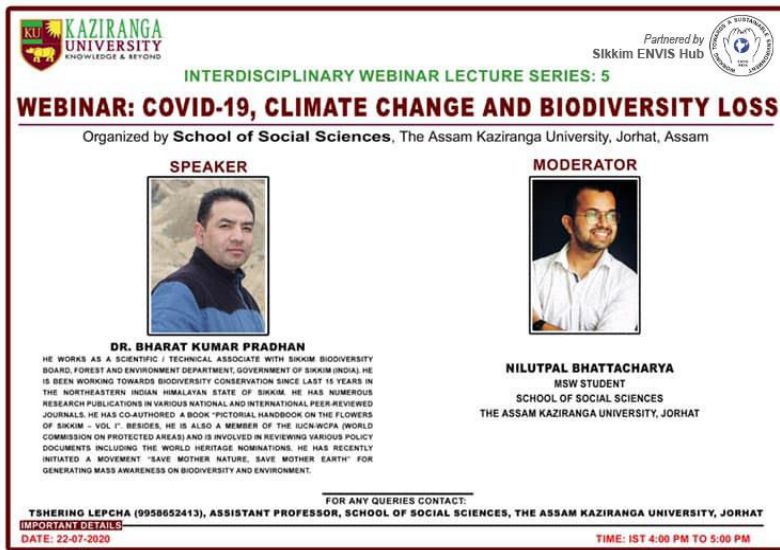
Detailed Report on GSDP Activities is at Annexure - III

- ✓ **Online Competitions:** Sikkim ENVIS Hub conducted four online competitive events (quiz, essay writing, painting, photography and short video contest) for students and general public who were locked in their homes during lockdown period. The events were organized week to month-long on occasions celebrating Earth Day (April 22), World Environment Day (June 5), World Ozone Day (September 16) and PCRA Competitions (Jan 4 – Feb 10, 2021). The events were participated by around 5000 persons in total. The prizes including cash rewards up to Rs 20,000.- to winners were supported ny host organizations and were presented by political dignitaries such as Hon’ble Chief Minister Shri Prem Singh Tamang and Hon’ble Minister Forest Shri Karma Loday Bhutia is state-level events conducted duly following covid-SOPs. All participants were issued e-certificates through ENVIS websites (<http://sikenvis.nic.in/ViewMajorActivity.aspx?Id=7750&Year=2020>)



✓ **Webinar on Covid-19, Climate Change and Biodiversity Loss on July 22, 2020:**

The webinar was conducted as a part of lecture series on covid-19 with linkages to climate change and biodiversity loss. The insights of the webinar was published in an article in Sikkim ENVIS special edition 92 paged newsletter PANDA and was released during August 2020.

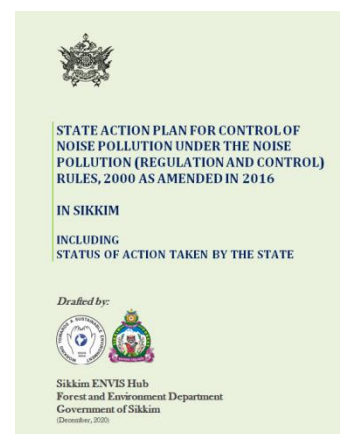


✓ **Organized Global Solar Yatra - Global Clean Environment Movement (Oct 2 – Nov 20, 2020):**

Global Solar Yatra was organized with several events such as Webinars for Youth titled ‘Role of Youths in attaining Atma Nirbhar Bharat in Energy’, Students Solar Ambassador Workshop, Competitive events, #YehDiwaliSolarWali and so as a global clean environment to commemorate the birth anniversary of Mahatma Gandhi. About 500 students and youths from across the state participated in the campaign organized in collaboration with IIT Bombay and Energy Swaraj Foundation Mumbai. Sikkim ENVIS Hub was felicitated with Certification of Appreciation.



✓ **Sikkim ENVIS Hub drafted State Action Plan for Control of Noise Pollution under the Noise Pollution (Regulation and Control) Rules, 2000 as amended in 2016 - Including Status of action taken by the State and submitted to line departments and senior officers of the department including SPCB Sikkim and then forwarded to CPCB as per Hon’ble NGT directive.**



- ✓ **Activities for Phasing out Single Use Plastics and Propagation of Green Good Deeds:** Mass public awareness and clean up drives were conducted at 40 plus urban and rural locations across the State in association in local NGOs, local associations, Taxi Driver's Associations, schools and colleges, urban and local bodies on phasing out of single-use plastics, waste segregation at source and propagation of Green Good Deeds across the State. The event was conducted on quarterly basis focusing on important environment calendar days. More than 5000 volunteers from local public participated and supported the campaign which was conducted under the Swachhata Action Plan 2020-21 funded by SSb cell of the MoEF&CC.



- ✓ **Covid-19 awareness and precautionary measure:** Sikkim ENVIS Hub conducted awareness campaigns on precaution measures of covid-19 including safety measures in handling bio-medical waste (with SPCB Sikkim) and distributed hand sanitizers, face masks, gloves and waste segregation bins at public places, parks and to needy and underprivileged to contain the spread of covid-19 deadly infection.



15. Date of most recent physical verification by the Ministry:

- Date: August 7-8, 2018 by Dr. Anandi Subramanian, Principal Adviser and Mr. Kumar Rajnish, National Programme Coordinator of ENVIS Secretariat, MoEF&CC, GoI (*during the State level stakeholder's meeting and inauguration of GSDP course on Ecotourism.*)
- Third party evaluation of Sikkim ENVIS Hub was conducted by M/s CS Datamation Research Services Pvt. Ltd. during the month of February 2020.

16. Status of Existing Hardware/ Inventory/ Record Registers:**i. Current Hardware Details**

Currently, Sikkim has four desktop systems, out of which three are and one old system is condemned. Details are as under:

| | Hardware item | Specification | Sanction Order with Date | Date of procurement |
|-----------------------------------|--|--|--|---------------------|
| Procured from ENVIS Grant 2013-14 | Desktop Computer – 1 No | HP AIO Intel Core i5, 3.40 GHz, 1 TB HDD, 8 GB DDR3 RAM, DVR Writer, 22” display | Sanction No: 11/68/2004 – EI Dated:27/12/2013 | 17/02/2014 |
| | Multifunction printer-cum-scanner-cum-copier - 1 No. | HP AIO (printer, copier, scanner) Color Laser Jet Pro MFP M176n | -do- | -do- |
| | UPS – 1 No | 600 VA UPS for desktop computer | -do- | -do- |

| Hardware Procured from ENVIS grant during 2002-03 | Hardware provided by the host department, Forests, Environment & Wildlife Management Department, Government of Sikkim |
|--|---|
| 1. Desktop Computer – 2 Nos (P-IV, 1 GB RAM, 80 GB HDD) 2. Printer - 1 No (Laserjet black printer) 3. Scanner – 1 (600 dpi flat bed) | 1. Desktop Computer – 1 Nos 2. Printer – 1 Nos 3. Scanner (Flat bed) – 1 Nos 4. All in one printer/ copier/ scanner – 1 No 5. 3 KVA inverter with battery 6. Telephone (landline 03592-280381) |

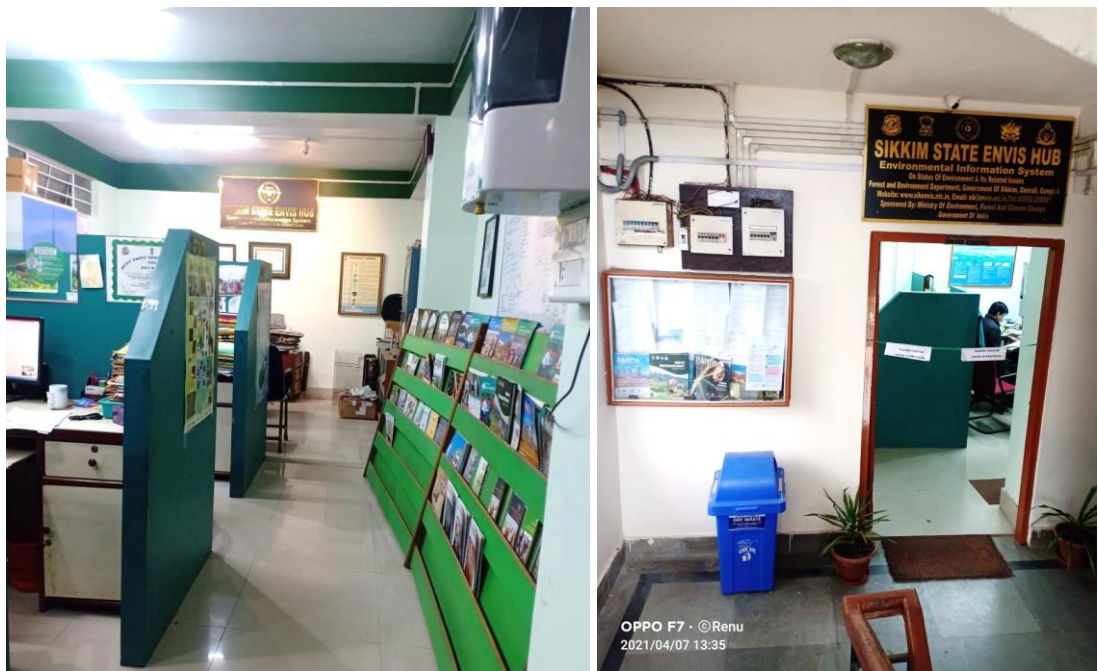
Condemnation: One of the computer systems (PIV, 1 GB RAM, 80 GB HDD, 14” CRT Monitor) procured under ENVIS scheme during 2002-03 is not functional and is condemned for disposal.

ii. Labelling of each of Hardware and other equipment purchased under ENVIS Budget

| Labelling of Hardware procured from ENVIS | Issued to |
|--|-----------------------|
| ENVIS #1 (C) – Compaq PIV Desktop | Sr. Programme Officer |
| ENVIS # 2 (C) – HP AIO Core i5 Desktop | Sr. Programme Officer |
| ENVIS #3 (C) – Dell PC | Information Officer |
| ENVIS #4 (P) – Laserjet Printer (All in one) | Sr. Programme Officer |
| ENVIS #5 (P) – HP Colour Laser Jet Pro MFP Printer M176n | IT. Officer |
| ENVIS #6 (UPS) | Sr. Programme Officer |

| Labelling of Hardware provided by Host | Issued to |
|--|---------------------|
| HOST #1 (C) – HP (All in one) Desktop | IT. Officer |
| HOST #2 (C) – Lenova | DEO |
| HOST #3 (P) – HP Laser jet1200 | Information Officer |
| HOST #4 (P) – HP Laserjet P1106 | IT. Officer |
| HOST #5 (P) – EPSON | DEO |
| HOST #6 (P) – A3 laser jet photocopier | DEO |
| HOST #7 (UPS) | Information Officer |
| HOST #8 (UPS) | IT. Officer |
| HOST #9 (UPS) | DEO |

Office Infrastructure including tables, chairs, inverter, telephone etc all has been provided by the host organization.



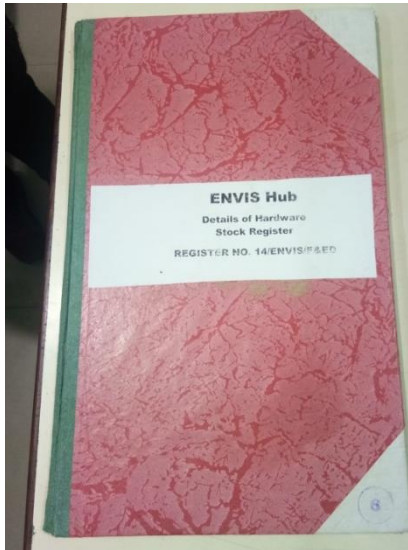
Office of Sikkim ENVIS Hub



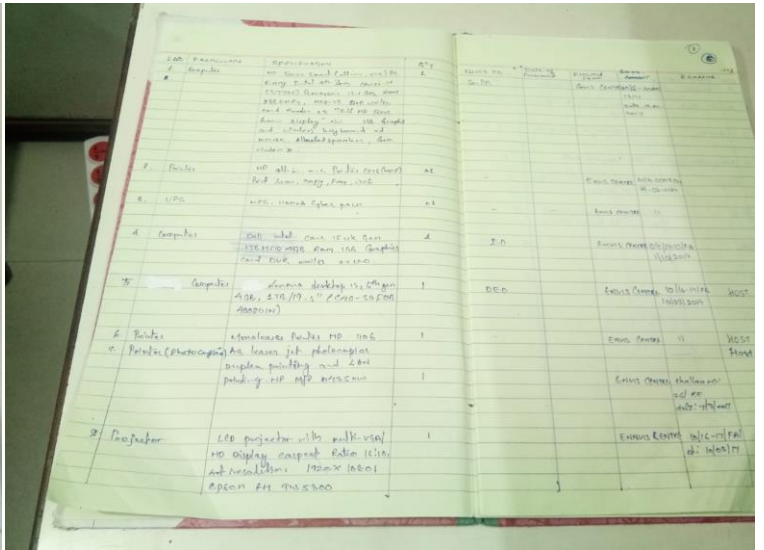
Labelling of hardware (sample photo)

iii. Updation of Asset Register/Stock Register

All the procurements including stock and its inventory are maintained in Register No 14/ENVIS (Hardware) and 54/ENVIS (Stationeries) kept in the office.



Stock Register No. 14/ENVIS (Sample photo)

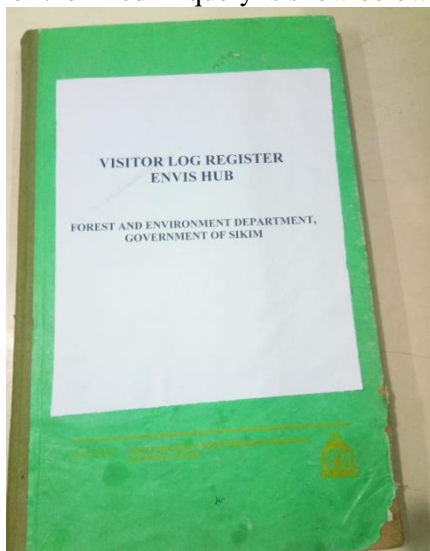


Stock Register (Inside) -

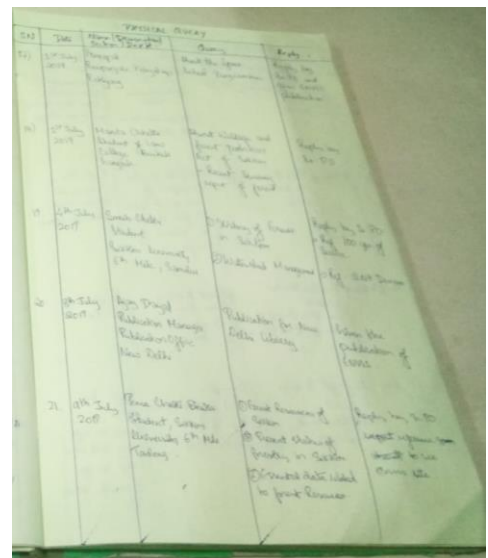
iv. Visitors Register (physical/telephonic/online)

Sikkim ENVIS Hub records visitor's feedback in Visitor Log Book/ Register maintained by the center.

Visitor's seeking data and information are to fill up a Query Form separately as well. A sample copy of the filled-in query is show below.



Visitor Log Register (Sample photo)



Visitor Log Register (Inside)



ENVIS Centre SIKKIM

(On Status of Environment & its Related Issues)
Forest, Environment & Wildlife Management Department
Government of Sikkim, Gangtok



जहाँ है हटियाली ।
वहाँ है खुशहाली ॥

Sponsored by
The Ministry of Environment & Forests, Government of India

QUERY FORM

Name Ms. Deepa Chettri
Designation : Student
Organization : College of Horticulture & Forestry
Address : Singtam, East Sikkim.

Phone No : 8250514808
Email ID : deepachettri321@gmail.com.

Your Queries

- Information related to- new techniques and practices in forestry in Sikkim
- Any-New species introduced

Deleted and Informative moved

for logis cent

Date of Submission: 13/01/2021

Visit Us At
Website URL: www.sikenvs.nic.in
Email ID: sik@envs.nic.in

password: chettri@21

Snapshot of filled-in query form (sample)

17. Status of utilization of grant during the financial year 2020-21 as on 31-Mar-2021 and reasons for shortfalls, if any:

ENVIS RECURRING GRANT 2020-21


| SN. | Sanctioned Object Head | Amount Sanctioned (in Rs.) | Expenditure incurred (in Rs.) | Available Balance (in Rs.) |
|--------------|---|----------------------------|-------------------------------|----------------------------|
| 1 | Manpower | 15,82,409 | 15,82,409 | 0 |
| 2. | Others (Database development, website maintenance, printing of Newsletters & Prakriti Map, contingency, stationery, consumables, AMC, Internet charges, training, inter-centre interaction workshops, expenses on monitoring, ISBEID Database development, Mobile App Development etc.) | 4,65,300 | 4,65,300 | 0 |
| 3. | Travel etc. | 0 | 0 | 0 |
| Total | | 20,47,709 | 20,47,709 | 0 |

GSDP COURSES 2020-21

| SN. | Sanctioned Object Head | Sanction Details (in Rs.) | Expenditure incurred (in Rs.) | Balance (in Rs.) |
|-----------------------|---|--|-------------------------------|------------------|
| 1 | Value Addition and Marketing of NTFPs (Animal Origin): Wild Beekeeping and Processing – NSQF level 5, 200 Hrs (25 says), 25 candidates | Sanction No. 11/2/2020-Eco-D dated 07/01/2021 Rs.10,24,500/- | 10,24,500 | 0 |
| 2. | GSDP Course: Value Addition and Marketing of NTFPs (Plant Origin)- Bamboo Crafts 400Hrs (45 days) 20 candidates NSQF level 5 | Sanction No. 11/2/2020-Eco-D dated 06/01/2021 Rs.14,35,080/- | 14,35,080 | 0 |
| 3. | GSDP Course: Forest Fire Managment 300Hrs (36 days) 20 candidates NSQF level 5 | Sanction No. 11/2/2020-Eco-D dated 06/01/2021 Rs.13,18,480/- | 13,18,480 | 0 |
| 4. | GSDP Course: Sustain and Enhance Technical Knowledge in Solar Energy Systems 240Hrs (30 days) 20 candidates NSQF level 5 | Sanction No. 11/2/2020-Eco-D dated 06/01/2021 Rs.11,87,200/- | 11,87,200 | 0 |
| All GSDP Total | | Rs. 49,65,260 | 49,65,260 | 0 |

18. Gist of Other Activities [Awareness/ Training/ Outreach Activities] Conducted by Sikkim ENVIS Hub during 2020-21

(Titles of Programmes, content and coverage of topics, Relevance of the theme, number of participants)
Date/ Month -wise

| Gist of Other Activities [Awareness/ Training/ Outreach Activities] Conducted by Sikkim ENVIS Hub during 2020-21 | | | | |
|--|------------------|---|--|---|
| SN | Date | Programme Title | Content and coverage | Impact and Outcomes/ No. of participants and Method of dissemination |
| 1. | April 1-22, 2020 | Celebrating 50th Year of Earth Day - Climate Action with Covid Awareness | The event was organized in collaboration with MoEFCC, School Eco-Clubs, Forest and Environment Department, Education Department. The event brought out covid awareness and its relation with climate action and environment amongst the students. Online paintings and short videos were prepared by students. | About 200 students voiced their climate action with covid awareness amongst locality. Two Sikkim State Students were also adjudged 2nd and 3rd by MoEFCC in the national level competition. |
|  <p>https://youtu.be/IBnfnbIxoXw</p> | | | | |
| 2. | May 4-27, 2020 | Sensitization on proper safety measures in handling bio-medical waste | Implementation of central and state guidelines in covid-19 management in regard to proper management and disposal of bio-medical waste generated from covid-19 care facilities, quarantine facilities. | About 100 frontline staff benefited in association with SPCB Sikkim, and Municipal bodies. |
|  | | | | |

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| 3. | May 18, 2020 | International day for Biological Diversity | International day for Biological Diversity on theme 'Our Solutions are in Nature' was celebrated with online competitions and social media live talk show. | Around 1500 students participated in the event and live show was witnessed by 2000 plus viewers. |
| | | | | |
| 4. | May 20, 2020 | Celebrating World Bee Day 2020 (May 20) | Sikkim GSDP beekeeping farmers carried out social media awareness drives highlighting the importance of traditional knowledge related to beekeeping, the use of bee-derived products and services, and their importance in achieving the SDGs | 25 GSDP Beekeeping candidates participated in association with Sikkim Khadi and Village Industries Board |
| | | | | |


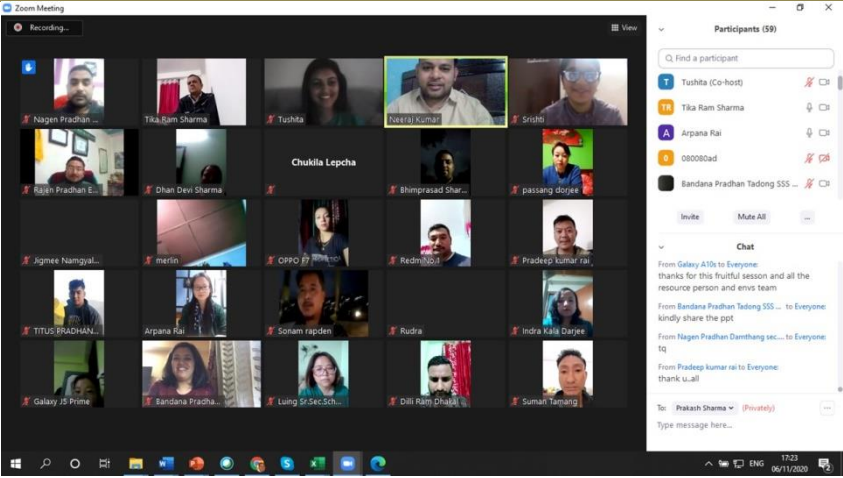

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| 5. | May 27, 2020 | Celebrating World Otters Day 2020 | Sensitization about Himalayan otters. Out of 13 species in the world, Sikkim is home to 3 species which has highlighted in the poster. | Social media awareness led by Sunita Khatiwara, Reserach and Extension, Forest and Environment Department drive for general public. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Otters of Sikkim Himalaya</p> <p>Otter is a semi-aquatic mammal that feed on fish, crabs & insects. It is called "Paani Ooth" or "Paakha Ooth" in Nepali. There are 13 species of species of otters in the world. Sikkim is home to three species of otters viz. Eurasian, Smooth-Coated and Asian Small-Clawed.</p> <p>Otters are 'otterly' awesome for our environment!</p> <table border="1"> <thead> <tr> <th>Otter & Water Quality</th> <th>Major Threats to Otters</th> <th>Ways to save Otters</th> </tr> </thead> <tbody> <tr> <td>As per IUCN, 9 out of 13 species of otters are threatened with extinction. Otter presence in water bodies indicates the good water quality. They are considered as the sentinels of public health with regards to pollution and infection. Thus, their preservation is very vital.</td> <td>Major threats to otters in Sikkim Himalaya are - 1. Habitat Loss/Degradation due to unregulated extraction of riverbed materials. 2. Dams which is impacting fish movement which reduces its prey availability 3. Untreated Sewage/Effluent disposal 4. Illegal trade for fur and petting</td> <td>1. Awareness, education & research on otters 2. Preventing illegal trade 3. Regulation of extraction of riverbed materials 4. Proper fish ladders in Dams 5. Proper treatment of sewage of effluents</td> </tr> </tbody> </table> <p>May 27th is globally celebrated as World Otters Day</p> <p>Funded & Supported by - Sikkim Forest & Env. Department SBFP - JICA IUCN SSC OSG Wildlife Reserve, Singapore Conservation Grant Himalayan Otter Network</p> | | | | | Otter & Water Quality | Major Threats to Otters | Ways to save Otters | As per IUCN, 9 out of 13 species of otters are threatened with extinction. Otter presence in water bodies indicates the good water quality. They are considered as the sentinels of public health with regards to pollution and infection. Thus, their preservation is very vital. | Major threats to otters in Sikkim Himalaya are - 1. Habitat Loss/Degradation due to unregulated extraction of riverbed materials. 2. Dams which is impacting fish movement which reduces its prey availability 3. Untreated Sewage/Effluent disposal 4. Illegal trade for fur and petting | 1. Awareness, education & research on otters 2. Preventing illegal trade 3. Regulation of extraction of riverbed materials 4. Proper fish ladders in Dams 5. Proper treatment of sewage of effluents | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6. | May 26- June 5, 2020 | Himalayan Biodiversity and Covid-19 (Online Competition) – World Environment Day Celebration | Celebrating World Environment Day, Sikkim ENVIS Hub organized competitive events such as paintings, essay, photography, short video etc for students and general public to generate awareness on conserving Himalayan Biodiversity and containing the spread of Covid-19 pandemic. | About 2200 students and general public participated | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Let us Conserve and Protect our rich Himalayan Biodiversity</p> <p>5th June 2020</p> <p>WORLD ENVIRONMENT DAY</p> <p>We're losing biodiversity globally at an alarming rate, and we need abundance of different plants and animals, for the planet's health and our own.</p> <p>Let us all join hands to conserve and protect our rich Himalayan Biodiversity during Covid-19 pandemic with our individual capacity in the surrounding areas.</p> <p>Visit www.sikenvis.nic.in to participate online & win attractive cash prizes</p> <p>Issued in Public Interest Forest and Environment Department Government of Sikkim</p> <p>JOIN US TO CELEBRATE WORLD ENVIRONMENT DAY ON THE THEME "BIODIVERSITY"</p> <p>Participate and Win e-Certificates and attractive Cash Prizes</p> <table border="1"> <thead> <tr> <th>ONLINE QUIZ COMPETITION</th> <th>OPEN PHOTOGRAPHY CONTEST</th> </tr> </thead> <tbody> <tr> <td>Date & Time: June 5, 2020 [11am to 11.30am] Topic: Himalayan Biodiversity</td> <td>Theme: Himalayan Biodiversity</td> </tr> <tr> <td>For Students of Std 9 to 12 1st Prize: Rs. 8,000 2nd Prize: Rs. 5,000 3rd Prize: Rs. 3,000</td> <td>1st Prize: Rs. 15,000 2nd Prize: Rs. 10,000 3rd Prize: Rs. 8,000</td> </tr> <tr> <td>For College Students 1st Prize: Rs. 10,000 2nd Prize: Rs. 8,000 3rd Prize: Rs. 5,000</td> <td>The photo must be in its original state and cannot be altered in any way.</td> </tr> <tr> <td>Link to submit the essay is available in the website www.sikenvis.nic.in on June 5, 2020 [11AM] under Major Activity Section.</td> <td>Link to submit the photo is available in the website www.sikenvis.nic.in under Major Activity Section. 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| 7. | July 7, 2020 | Celebrating A Day for Mother Earth 2020 | A programme witnessed state-wide stoppage of vehicles for 7 minutes from 11am to 11.07am on July 7, 2020 along with mass public participation in plantation and cleanup drives | 5000+ general public participated. Event Video link: https://youtu.be/m0KVXU-HC-I |
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| 8. | July 1-14, 2020 | Van Mahotsav and Swachhata Pakwada celebration | Plantation, cleanup and sensitization drives through social media across the state in coordination with Forest and Environment department | All State governments, urban and local bodies, panchayats, JFMC, EDC, SHG, Students and public participated. (5000+) |
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| 9. | July 22, 2020 | Webinar on Covid-19, Climate Change and Biodiversity Loss | The webinar was conducted as a part of lecture series on covid-19 with linkages to climate change and biodiversity loss. The insights of the webinar was published in an article in Sikkim ENVIS special edition 92 paged newsletter PANDA and was released during August 2020 | 500+ viewers witnessed in session of Dr. Bharat Kumar Pradhan, Scientist in collaboration with Kaziranga University |
| <div style="display: flex; justify-content: space-around;"> <div data-bbox="247 712 981 1227" style="border: 1px solid black; padding: 5px;">  <p>WEBINAR: COVID-19, CLIMATE CHANGE AND BIODIVERSITY LOSS</p> <p>Organized by School of Social Sciences, The Assam Kaziranga University, Jorhat, Assam</p> <p>SPEAKER DR. BHARAT KUMAR PRADHAN HE WORKS AS A SCIENTIFIC / TECHNICAL ASSOCIATE WITH SIKKIM BIODIVERSITY BOARD, FOREST AND ENVIRONMENT DEPARTMENT, GOVERNMENT OF SIKKIM (INDIA). HE IS BEEN WORKING TOWARDS BIODIVERSITY CONSERVATION SINCE LAST 13 YEARS IN THE NORTHEASTERN INDIAN HIMALAYAN STATE OF SIKKIM. HE HAS NUMEROUS RESEARCH PUBLICATIONS IN VARIOUS NATIONAL AND INTERNATIONAL PEER-REVIEWED JOURNALS. HE HAS CO-AUTHORED A BOOK "PICTORIAL HANDBOOK ON THE FLOWERS OF SIKKIM - VOL I". BESIDES, HE IS ALSO A MEMBER OF THE IUCN/SSC (WORLD COMMISSION ON PROTECTED AREAS) AND IS INVOLVED IN REVIEWING VARIOUS POLICY DOCUMENTS INCLUDING THE WORLD HERITAGE NOMINATIONS. HE HAS RECENTLY INITIATED A MOVEMENT "SAVE MOTHER NATURE, SAVE MOTHER EARTH" FOR GENERATING MASS AWARENESS ON BIODIVERSITY AND ENVIRONMENT.</p> <p>FOR ANY QUERIES CONTACT: TSHERING LEPCHA (9958652413), ASSISTANT PROFESSOR, SCHOOL OF SOCIAL SCIENCES, THE ASSAM KAZIRANGA UNIVERSITY, JORHAT DISPATCH DATE: DATE: 22-07-2020</p> <p>TIME: IST 4:00 PM TO 5:00 PM</p> </div> <div data-bbox="997 712 1380 1227" style="border: 1px solid black; padding: 5px;">  <p>PANDA ENVIS SIKKIM NEWSLETTER ON FORESTS, ENVIRONMENT & WILDLIFE Special Edition Covid-19 Pandemic Is it linked to Climate Change and Biodiversity Loss? www.sikkimvis.nic.in</p> </div> </div> | | | | |
| 10. | August 13, 2020 | Official release of ENVIS Publication 'PANDA' Vol 12, special edition Sikkim ENVIS Newsletter | PANDA 2020 Vol 12, 92 paged special edition ENVIS Sikkim Hub Newsletter being released by Shri Karma Loday Bhutia, the Hon'ble Minister, Forest and Environment Department, Government of Sikkim in presence of senior officers of the department on August 13, 2020 at Tragopan Meeting Room, Forest Secretariat, Gangtok. | 1000 copies printed and circulated across the country. E-copy hosted in website. |
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| 11. | September 15, 2020 | Virtual Meet - First Introductory Virtual meet of SEAC Sikkim  | Sikkim ENVIS hub facilitated the first Introductory Virtual meet of SEAC Sikkim to discuss the role in scrutinizing the project proposals for consideration of Environmental Clearance. | Members of State Environment Appraisal Committee (SEAC) Sikkim attended |
| 12. | September 16, 2020 | Celebration of World Ozone Day 2020   | A 20 minute State level Online Quiz Competition was organized to commemorate World Ozone Day from 1pm to 1.20pm. All participants are being issued e-certificates to appreciate their participation which are downloaded from www.sikennis.nic.in under Major Activity Section of the ENVIS website. The virtual meet was organized in collaboration with State Pollution Control Board Sikkim under the chairmanship of Dr. Thomas Chandy, Chairman SPCB Sikkim. | The event day was participated by 396 students/general public. 40 participants scored 100/100. The average marked scored was recorded as 66.41/100. Cash prize up to Rs 45,000/- was presented by the host organization. Virtual meeting was attended by 21 industrial units participated which comprised of pharma formulation industries, distillery and food industry. |
| 13. | September 16, 2020 | Release of Booklet on Status Report of Forest Nurseries 2020-21 | Honourable Minister Forest Shri Karma Loday Bhutia released a book publication on “Status Report of Forest Nurseries 2020-21” in presence of Principal Secretary cum PCCF Shri M L Srivastava and senior officers of the Forest and Environment Department. | The booklet is beneficial for practicing foresters, researchers, academicians, scientists and general public |
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| 14. | Oct 2 - Nov 20, 2020 | Global Solar Yatra - Global Clean Environment Movement | Global Solar Yatra was organized with several events such as Webinars for Youth, Students Solar Ambassador Workshop, Competitive events, #YehDiwaliSolarWali and so as a global clean environment to commemorate the birth anniversary of Mahatma Gandhi. | About 500 students and youths from across the state participated in the campaign. Event was organised in collaboration with In collaboration with Energy Swaraj Foundation which felicitated Sikkim ENVIS Hub with Certificate of Appreciation for conducting and coordinating the event as Workshop Associate in Sikkim. |
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| 15. | November 5-6, 2020 | Online Capacity Building Workshops on Environment Auditing at Schools  | The Green Schools Program on Environment Auditing was introduced to 120 schools focusing on six key themes viz air, water, land, energy, waste and food for sustainable practices and efficient environment management at schools | 120 green teachers from schools across the state participated. The event was organized in collaboration with Centre for Science and Environment, New Delhi |
| | |  | | |
| 16. | November 9-30, 2020 | Swachha Hawa Campaign - Harit Diwali Swasth Diwali- Clean Air Campaign | ENVIS Hub in collaboration with several line departments and stakeholders, Taxi Driver's Association, urban and local bodies across the State conducted month-long [Nov 9-30] swachhata activities such as clean up drives, sensitization on clean air (avoiding firecrackers, burning of waste), household waste segregation and management, awareness on covid-19 precautionary measures, | Minimal Pollution (Air and Noise) was observed during Deepwali festival. Video Message https://youtu.be/jU4zMashnIA Social media activities, video appeal of Hon'ble Minister, broadcasting of jingles through FM, propagation of Green Good Deeds witnessed. |
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| 17. | November 26, 2020 | Celebration of Constitution Day | Constitution Day also known as <i>Samvidhan Divas</i> was celebrated on 26 th November, 2020 to promote constitution values among citizens in coordination with school/ college eco-clubs and other stakeholders across the State. | Participated across the state by government officers and staff and schools. |
|  | | | | |
| 18. | December 28-29, 2020 | Online Capacity Building Activities on Conservation Education | Two day Capacity Building activities for about 200 green teachers conducted on conservation education. The programme was conducted in partnership with CASFOS Dehradun through virtual mode. | 200 teachers from schools across the state were oriented on activities for contributing to SDG. |
| 19. | January 4 2021 | 'Saksham' National Competition - 2020-21: In association with Petroleum Conservation Research Association (PCRA), under the aegis of Ministry of Petroleum & Natural Gas, Govt. of India | The Essay writing, Painting, and Quiz competitions were organized through virtual platform to raise awareness among youth about the conservation of Petroleum products in industrial, transport, agriculture and domestic sector, reduction of oil imports, energy conservation, importance and use of renewable energy sources, and how to practice conservation tips in our daily lives, and save the environment. | 400 Eco-Clubs targeting 2000 students for class VII to X participated.  'Saksham' National Competition 2021 Essay, Painting & Quiz CASH PRIZES Petroleum Conservation Research Association (PCRA), under the aegis of Ministry of Petroleum & Natural Gas, Govt. of India, is committed to make oil conservation a National Movement. The Essay writing, Painting, and Quiz competitions aim to raise awareness among youth about the conservation of Petroleum products in industrial, transport, agriculture and domestic sector, reduction of oil imports, energy conservation, importance and use of renewable energy sources, and how to practice conservation tips in our daily lives, and save the environment. For effective communication, students may choose to present their ideas and messages for conserving petroleum products and reducing emission, in English, Hindi or Regional languages. THREE COMPETITIONS ARE BEING CONDUCTED BY PCRA FOR SCHOOLS ONLY ▶ Essay ▶ Painting ▶ Quiz for selecting School team and thereafter State and National level. For more details, visit: www.petroleum.org www.pcraindia.com www.pcraindia.org #SaveFuel #SaveEnergy #SaveEnvironment #SaveOurFuture  |

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| 20. | January 30, 2021 | <p>Celebration of National Cleanliness Day</p> <p>The event was intended to propagate Green Good Deeds as a way of life and the participants solemnized Green Pledge to keep the Environment Clean and Green by curbing the use of SUPs</p> | <p>National Cleanliness Day in view of covid awareness was celebrated with sensitization drive to curb the use of single-use plastics along with clean up drive of jhoras/nallah at Pani House premise and Tadong premises. Intense day-long clean up drive of clogged jhoras was conducted. Face masks, hand sanitizers, gloves, waste segregation bins were distributed to comply with covid SOP..</p> | <p>About 500 local people and youths participated and pledged to practice curbing the use of Single Use Plastics in daily life.</p> <p>Campaign picture along with before and after pictures of clean up drive is given below.</p> |
| | | | | |
| 21. | February 1-28, 2021 | <p>Swachhata Activities - Ek Kadam Swachhata Ki Ore (Month-Long)</p> <p>Reusable cloth made face masks, hand sanitizers, gloves and blue and green coloured waste segregation bins were distributed and installed at various public places.</p> | <p>To sensitize general public about safe disposal of face mask and to curb the use of single-use plastics, Sikkim ENVIS Hub in collaborations with local stakeholders conducted month-long sensitization and clean up drives across the State.</p> | <p>Swachhata activities reached 40 plus urban and rural areas across the state including world'd highest cafeteria and ITBP camp at 18000 ft. About 2000 persons participated.</p> |
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|---|------------------------|---|---|---|
| SN | Date | Programme Title | Content and coverage | Impact and Outcomes/ No. of participants and Method of dissemination |
| 22. | February 2, 2021 | Celebration of World Wetlands Day - "Wetlands and Water" | The event emphasized on the importance of conserving and protecting the Wetlands. The villagers were briefed about the roles they play in environment conservation and how has Forest Department been working on the issues and how can a combined effort be taken towards conservation of natural resources. | About 100 local people of Yakla, Army Personnel. It was also observed that the army cooperation was much needed to preserve wetlands in the area. |
| | |    | | |
| 23. | March 12, 2021 onwards | Azadi ka Amrit Mahotsav / Bharat ka Amrut Mahotsav - Commemoration of 75 years of India's Independence World Forest Day on 21st Feb and World Water Day on 22 February. | Bharat ka Amrut Mahotsav - Commemoration of 75 years of India's Independence was launched in Sikkim on 12th of March 2021 with activities focusing of propagation of Green Good Deeds through 75 week long GGD activity by eco-clubs at schools and colleges. | The programme targets about 856 eco-club students and teachers across the State. Activities such as hugging the tree, bonding friendship with trees, weeding, maintenance of school nurseries, herbal garden, clean up drives, water source development, vertical garden were witnessed on the occasion of World Forest Day on 21st Feb and World Water Day on 22 February. |
| | |   | | |

19. ENVIS Output-Outcome Details and its Impact over past five (5) years:

Major Achievements of Sikkim State ENVIS Hub

1. Received National Award as ‘Best State ENVIS Centre 2014-15’ from the Ministry of Environment, Forest & Climate Change. The award certificate was presented by Shri Prakash Javadekar, the then Minister of State (Independent Charge) for Environment, Forest and Climate Change at New Delhi on 17th February, 2016. Sikkim ENVIS was tagged as ‘GURU CENTRE’ during 2012-13 by the Ministry to take a lead role in providing assistance to other ENVIS network of the country.
2. Sikkim ENVIS Website hosts major publications of the government such as State of Environment Report, Climate Change of Sikkim, Biodiversity of Sikkim, Rapid Biodiversity Surveys, collection of Journals and Scientific Papers, Environment Initiatives of the State Government, etc.
3. The implementation of Environment Education, Awareness and Training amongst school eco-clubs have brought several national awards to Sikkim Schools conferred by reputed agencies like CSE, CEE and WIPRO on annual basis since 2002.
4. Active coordination and implementation of ‘Chief Minister’s Green School Rolling Trophy and State Green School Awards’ since 2011. The award carrying cash prizes up to Rs 12 lakh (funded by the State Government) is being presented to eight schools annually on the occasion of World Environment Day on 5th of June.
5. Sikkim ENVIS Hub has been partnering with other reputed agencies like WIPRO, IIT Bombay, CSE, New Delhi for pooling of resources including funds for supporting and promoting environment information, education, awareness and training in the State.
6. Sikkim ENVIS special publication titled ‘PANDA’ has gained popularity for its resourceful content and is wide disseminated across the country, national library and so on.
7. Sikkim ENVIS Hub is a resource agency for several research programmes in the State and has aided in drafting State Action Plan for Climate Change.
8. GSDP courses aligned with Sikkim ENVIS Hub has empowered the centre to reach rural populace of the State with livelihood schemes such as Beekeeping, Bamboo Crafts, Forest Fire Management and Solar Energy Systems.
9. Owing to being a vast repository of State’s environmental information, Sikkim ENVIS HUB has been assigned to prepare White Paper of the host department in 2017-18 and 2018-19 for submission to the State Legislative Assembly.
10. Sikkim ENVIS Hub has been a resource centre for the central and state government along with several research based organizations including research scholars for aiding in research studies, policy and decision making, drafting state action plans etc.



File Photo: SIKKIM ENVIS HUB receiving National Award as ‘Best State ENVIS Centre 2014-15’ from the Ministry of Environment, Forest & Climate Change. The award certificate was presented by Shri Prakash Javadekar, the then Minister of State (Independent Charge) for Environment, Forest and Climate Change at New Delhi on 17th February, 2016.

20. Proposed Annual Action Plan of Activities for 2021-2022

The annual plan of activities for next financial year 2021-2022 in summative is enumerated below;

1. Repository of Environmental Knowledge, Publications and Dissemination:

- Publication of 12 paged multicolor Quarterly Newsletters.
- Special edition 72-92 paged PANDA news magazine.
- Preparation of State of Environment Report 2021 and State Environment Atlas.
- Documentation of Indigenous Traditional Knowledge on Ecological Traditions of Sikkim,
- E-publications on 'Brief Document' on Wetlands of Sikkim.
- E-publications on State Environment Profiling of Sikkim – Delhi under 'Ek Bharat Shrestha Bharat' programme.
- Ecological Hotspot study of Gangtok, Sikkim as a Sustainable Tourist Destination with relevance to environment impact assessment on the fragile ecosystem and recommendations.
- Other knowledge products in the form of pocket-sized booklet/ pamphlets/ brochures/ posters/ flyers, Short Video Films/ DVDs on status of environment and its related issues pertaining to State of Sikkim.

2. Green Skill Development Programme (GSDP): To promote, implement, coordinate and facilitate opportunities for income generation sustainable activities through green skill training, four GSDP certificate courses in multiple batches are proposed in the State of Sikkim:

| SN | GSDP Certificate Course proposed to be conducted during 2021-2022 | Course Details | 1st Qtr (Apr-Jun) | 2nd Qtr (Jul-Sep) | 3rd Qtr (Oct-Dec) | 4th Qtr (Jan-Mar) | Total batches |
|----|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------|
| a. | Value addition and marketing of NTFPs (animal origin) - Wild Beekeeping and Processing | 200 Hrs, Batch Size- 25 | - | - | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 |
| b. | Sustain and Enhance Technical Knowledge in Solar Energy Systems | 240 Hrs, Batch Size- 20 | - | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 3 |
| c. | Forest Fire Management | 300 Hrs, Batch Size- 20 | - | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 3 |
| d. | Value addition and marketing of NTFPs (Plant origin) – Bamboo Crafts | 400 Hrs, Batch Size- 20 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 4 |

3. National Environment Survey - Grid Based Decision Support System (NES-GRIDSS) and ISBEID:

- a. Secondary data collection and District level National Environment Survey at two districts namely East Sikkim and North Sikkim.
- b. Preparation of 9x9 km and 5x5 km grid based maps on standard environmental parameters. Incorporation of layered maps on forest fires, human wildlife conflicts, AQI stations, flora and fauna hotspots based on the wildlife population estimation census data and so on.
- c. ISBEID data collection and updation as ongoing activity in all 17 modules. Enriching the subject-area database with climate change related information on, forestry, wildlife, biodiversity and so on.

4. Community-driven Environmentally Sustainable Village Programme (CESVP):

- a. To participate, implement and coordinate with local stakeholders/ associations for generating mass awareness and green action on “Phasing out Single Use Plastics” by 2022 at rural parts of the State. Activities to include are Swachhata Pakhwada, capacity building activities, propagation and implementation of Green Good Deeds, Karyanjali activities and so on.

5. Extension & Outreach programmes: on environmental information sharing, awareness, education and training of youths/ students/ teachers/ stakeholders at the ground level.

- a. **Bharat Ka Amrut Mahotsav:** Commemoration of 75 years of India’s Independence by conducting 75 week long awareness activities w.e.f 12th of March 2021 to 15th of August 2022. For this, a detailed weekly action plan will include activities on propagation of Green Good Deeds in coordination with School Eco-Clubs, NGOs, local associations, Stakeholders and line departments.
- b. **Ek Bharat Shrestha Bharat programme:** Sikkim State will be partnering with Delhi State in sharing of traditional knowledge, information, best environmental practices and success stories in coordination with Delhi based ENVIS Centres, School Eco-Clubs and line departments. Activities such as webinars, virtual meets, e-publications, posters etc will be prepared and conducted in line with week based action plan of Bharat Ka Amrut Mahotsav.
- c. **Implementation of Swachhata Action Plan 2021-22** as a Nodal Resource Agency in the State of Sikkim. Activities to include are riverfront/ jhora/ nallah clean up, Covid awareness on bio-medical waste management, solid waste management – phasing out SUPs, e-waste management etc.
- d. Support the host department in environment awareness programmes in the State like World Environment Day, A Day for Mother Earth, World Ozone Day and so on with events and activities such as online competitions (quiz/ essay writing/ painting/ photography/ short videography etc), webinars, virtual meets and preparation of knowledge products like brochures, handbooks, posters, flyers, signages, hoardings etc.

ANNEXURE - I

Status of Data Entry in ISBEID

(Indian State-level Basic Environmental Information Database)

SIKKIM STATE ENVIS HUB

2020-21

As on 31-Mar-2021

Annexure – I:
Status of Data Entry in ISBEID 2020-21: (Sikkim State ENVIS Hub): As on 31-Mar-2021

(Summarized Status on Updation of Data)

| SN | Module | Sub-Module | Period for which data updated (State/ District) |
|-----|-----------------------|---|---|
| 1 | Adminis-trative | 1. General 2. Socio Economics 3. Climate 4. Demography | 2000, 2005- 2012 1990-2000, 2004-2013, 2015 1990- 2000, 2006, 2008-2019 1981- 2011 |
| 2. | Infra-structure | 1. Housing 2. Medical and Health Service 3. Transport | 2001, 2005, 2011 1961-2020 1990-2020 |
| 3. | Energy | 1. Non-Renewable 2. Renewable 3. Electricity Consumption 4. Energy Consumption | 2003-2019 1992, 1995, 2000-2019 2008- 2016 1990-2016 |
| 4. | Agri-culture | 1. Agriculture Area Classification 2. Agriculture Production 3. Crop Production (plantation crops 4. Fertilizer Consumption 5. Pesticide Consumption | 1996- 2018 2000-2018 1990-2018 Nil Nil |
| 5. | Industries | 1. Category of Industry 2. Mining & Quarrying | 2019 1998-2002 |
| 6. | Tourism & Heritage | 1. Tourism & Heritage | 2019 |
| 7. | Natural Resources | 1. Land Use Classification 2. Land Degradation 3. Waste Land 4. Types of Wetlands 5. Soil Types | 1990-2019 2000-2016 1990-2016 2000-2020 1990-2020 |
| 8. | Forest Resource | 1. Distribution of Forest Cover 2. Recorded Forest 3. Mining in Forests 4. Actual Forest Cover by Density Class 5. Forest Produce 6. Joint Forest Management Committee | 1990- 2019 1990- 2019 Nil 1990-2019 2002-2011 2020 |
| 9. | Water Resource | 1. Source of Water | 1990-2019 |
| 10. | Ground Water Resource | 1. Status of Ground Water 2. Categorization of Water Level 3. Use of Ground Water | 2008-2011 2010-2016 2008-2011 |
| 11. | Ecology | 1. Ecological Areas 2. Ecology Type 3. Botanical Gardens 4. Zoological Parks 5. Physiographical Features | 2020 2020 2021 2021 2021 |
| 12. | Sanitation | 1. Hygiene & Sanitation 2. Air Borne Disease 3. Water Borne Disease | 2010-2020 2005-2018 2005-2018 |
| 13. | Water Pollution | | 2020 |
| 14. | Air Pollution | 1. Industrial 2. Residential 3. Vehicular Pollution | 2015 2021 2020 |
| 15. | Bio-diversity | 1. Flora 2. Fauna | 2014 |

| SN | Module | Sub-Module | Period for which data updated (State/ District) |
|-----|----------|---|---|
| 16. | Waste | 1. Type of Waste 2. Clean Technology 3. Effluent Treatment Plant/CEPT | 2019 |
| 17. | Disaster | 1. Disaster | 1990-2016 |

Status of Data Entry in ISBEID 2020-21: (Sikkim State ENVIS Hub): As on 31-Mar-2021

(Detailed Status on Updation of Data)

| Module | Sub-Module | Fields | Period for which data updated | | | |
|---------------------------|--------------------|--|-------------------------------|----------------------|------------------|-----------------------------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| I. Adminis- trative | 1. General | Name | | | | |
| | | No. of Districts (with name) | | | ✓ | |
| | | No. of Mandals/ Tahsils/ Taluks (with name) | ✓ | | | ✓ |
| | | No. of Blocks (with name) | ✓ | | | ✓ |
| | | No. of Municipalities (with name) | ✓ | | | ✓ |
| | | No. of Panchayats | ✓ | | | ✓ |
| | | No. of Cities with million plus population (with name) | ✓ | | | ✓ |
| | | No. of Tribal Settlements | | | | |
| | | Elevation above mean sea level (Maximum) | ✓ | | ✓ | ✓ |
| | | Elevation above mean sea level (Minimum) | ✓ | | ✓ | ✓ |
| | | Total geographical area | ✓ | | ✓ | ✓ |
| | | GDP of the state (Sector wise) | | | | |
| | | - Primary | 2000, 2005-2012 | | | 2000, 2005-2012 |
| | | - Secondary | 2000,2005-2012 | | | 2000,2005-2012 |
| | - Tertiary | 2000,2005-2012 | | | 2000,2005-2012 | |
| | 2. Socio Economics | No. of BPL household in millions | 2006, 2011, 2015 | | 2006, 2011, 2015 | |
| | | % of Household below poverty line | 2006, 2011, 2015 | | 2006, 2011, 2015 | |
| | 3. Climate | Average mean monthly temperature (Max.) | | 1990-2000, 2004-2019 | | 1990-2000, 2006, 2008-2019 |
| | | Average mean monthly temperature (Min.) | | 1990-2000, 2004-2019 | | 1990-2000, 2006, 2008-2019 |
| | | Total annual Rainfall | | 1990-2000, 2004-2018 | | 1990- 2000, 2006, 2008-2018 |
| | | Relative Humidity | | | | 2006 (E) |
| | 4. Demography | Population (for last 4 decades - 1961 - 71 - 81- 91- 2001) | 1961- 2011 | | 1991- 2011 | |
| | | Total Population | 1961- 2011 | | 1991-2011 | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|----------------------------|-------------------------------|--|-------------------------------|---------|------------------|---------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| | | Males Population | 1961- 2011 | | 1991-2011 | |
| | | Females Population | 1961-2011 | | 1991- 2011 | |
| | | Density | 1961- 2011 | | 1991- 2011 | |
| | | Area in | 1961 - 2011 | | 1981- 2011 | |
| | | No. of females/thousand males (sex ratio) | 1961- 2011 | | 1991-2011 | |
| | | % of Literacy | 1961- 2011 | | 1981- 2011 | |
| | | % of population attending school | 2001 | | | |
| | | Crude Birth Rate (Nos. per 1000 population) | 2001, 2011 | | | |
| | | Crude Death Rate (Nos. per 1000 population) | 2001, 2011 | | | |
| II. Infra-structure | 1. Housing | Permanent | 2001, 2005, 2011 | | 2001, 2005, 2011 | |
| | | Semi- Permanent | 2001, 2005, 2011 | | 2001, 2005, 2011 | |
| | | Temporary | 2001, 2005, 2011 | | 2001, 2005, 2011 | |
| | | Average Household Size (Persons per HH) | 2005 | | 2005 | |
| | 2. Medical and Health Service | No. of Government Hospitals | 1990-2020 | | 1990-2020 | |
| | | No. of Registered private hospitals/ nursing homes | 1961 - 2020 | | 1981- 2020 | |
| | 3. Transport | No. of Railway Stations | | | | |
| | | Length of Railway Lines | | | | |
| | | Length of National Highways | 1998-2020 | | | |
| | | Length of State Highways | 1990-2020 | | 1990- 2020 | |
| | | Length of other roads | 1998-2001 | | | |
| | | No. of Domestic Airports | | | | |
| | No. of international Airports | | | | | |
| III. Energy | 1. Non-Renewable | Coal power generation | | | | |
| | | Installed Capacity | | | | |
| | | Gas Power generation | | | | |
| | | Installed Capacity | | | | |
| | | Oil based power generation | | | | |
| | | Installed Capacity | | | | |
| | | Atomic power generation | | | | |
| | | Installed Capacity | | | | |
| | | Power from National Grid | 2003-2019 | | | |
| | Installed Capacity | 2003-2019 | | | | |
| | 2. Renewable | Hydel power generation | 1992, 1995, 2000-2019 | | | |
| | | Installed Capacity | 1992, 1995, 2000-2019 | | | |
| | | Windmill power generation | | | | |
| | | Installed Capacity | | | | |
| | | Solar photovoltaic power generation | | | | |
| | | Installed Capacity | | | | |
| | | Biogas power generation | | | | |
| | | Installed Capacity | | | | |
| | | Other biomass power generation | | | | |
| | Installed Capacity | | | | | |
| 3. Electricity Consumption | Industrial and Commercial | 2008- 2016 | | | | |
| | Agriculture | 1990-2016 | | | | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|-----------------|---|------------------------------------|-------------------------------|----------------------|----------------------|------------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| | 4. Energy Consumption | Domestic | 2008- 2016 | | | |
| | | Others | 1998- 2012 | | | |
| | | LPG | 2010- 2014 | | | |
| | | Other Petroleum Products | | | | |
| | | Coal | | | | |
| | | Natural Gas | | | | |
| | | Other | | | | |
| IV. Agriculture | 1. Agriculture Area Classification | Total agricultural area | | | | |
| | | Area under non-agriculture use | 2001-2013 | | | |
| | | Barren and uncultivable land | 1996-2012 | | | |
| | | Permanent pasture / grazing land | 1996- 2015 | | 1996-2013 | |
| | | Net irrigated land | 1996-2013 | | | |
| | | New Sown area | 1991, 1996-1999, 2002-2013 | | | |
| | | Plantation crops | | | | |
| | | Fallow | 1991, 1996, 2005-2012 | | | |
| | | Area under organic farming thereof | | | | |
| | | 2. Agriculture Production | Total production of crops | 2000-2002, 2004-2018 | | 2004- 2018 |
| | Yield of Kharif Crops % | | 2000-2002, 2004-2018 | | 2004-2018 | |
| | Yield of Rabi Crops % | | 2000-2002, 2004-2018 | | 2004-2018 | |
| | Yield of other crops % | | | | | |
| | 3. Crop Production (plantation crops) (in million tons per annum) | Name | | | | |
| | | Production | | | | |
| | | Rice | 1990-2018 | | 1991- 2018 | |
| | | Sowing Area | 1990-1997, 2000- 2018 | | 1991-1998, 2000-2018 | |
| | | Production | 1990-2018 | | 1991-2018 | |
| | | Wheat | 1992-2018 | | 1992, 1998-2018 | |
| | | Sowing Area | 1992, 2000-2018 | | 1992, 2000-2018 | |
| | | Production | 1992- 2018 | | 1992, 1998-2018 | |
| | | Pulses | 1992- 2018 | | 1992, 1998-2018 | |
| | | Sowing Area | 1992, 2000-2018 | | 1992, 2001-2018 | |
| | | Production | 1992-2018 | | 1992, 1998-2018 | |
| | | Total food grains | | | | |
| | | Sowing Area | | | | |
| | | Production | | | | |
| | | Cotton | | | | |
| | | Sowing Area | | | | |
| | Production | | | | | |
| Jute &mesta | | | | | | |
| Sowing Area | | | | | | |
| Production | | | | | | |
| Sugarcane | | | | | | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|-------------------------------|---------------------------|--|-------------------------------|-----------------------|-----------------------|---------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| | | Sowing Area | | | | |
| | | Production | | | | |
| | | Tobacco | | | | |
| | | Sowing Area | | | | |
| | | Production | | | | |
| | | Oil Seeds | 1992-2018 | | 1992-2018 | |
| | | Sowing Area | 1992-2018 | | 1992-2018 | |
| | | Production | 1992- 2018 | | 1992-2018 | |
| | | Cereals | 1993- 2018 | | 2004- 2018 | |
| | | Sowing | 2000-2018 | | 2004-2018 | |
| | | Production | 1993-2018 | | 2004-2018 | |
| | | Others | 1996- 2018 | | 1998-2018 | |
| | | Sowing Area | 1996, 1998, 2005-2018 | | 1996, 1998, 2005-2018 | |
| | Production | 1996, 1998, 2005-2018 | | 1996, 1998, 2005-2018 | | |
| | 4. Fertilizer Consumption | Nitrogen | | | | |
| | | Phosphate | | | | |
| | | Potash | | | | |
| | | Others | | | | |
| | 5. Pesticide Consumption | Insecticides | | | | |
| | | Fungicides | | | | |
| | | Weedicides | | | | |
| | | Rodenticide | | | | |
| | | Fumigants | | | | |
| Others | | | | | | |
| V. Industries | 1. Category of Industry | Total No. of Large Scale Industries | 2019 | | | |
| | | Total No. of Medium Scale Industries | 2001, 2004, 2019 | | | |
| | | Total No. of Small scale Industries | 2001- 2019 | | | |
| | | Total No. of Red Category Industries | | | | |
| | | Total No. of Orange Category Industries | 2019 | | | |
| | | Total No. of Green Category Industries | | | | |
| | 2. Mining & Quarrying | Iron | | | | |
| | | Copper | 1998- 2002 | | | |
| | | Lead | 1998- 2002 | | | |
| | | Zinc | 1998- 2002 | | | |
| | | Nickel | | | | |
| | | Manganese | | | | |
| | | Bauxite | | | | |
| | | Coal | | | | |
| Other (Chromite) | | | | | | |
| Name of the Mineral Resources | | | | | | |
| VI. Tourism & Heritage | 1. Tourism & Heritage | Name and location of Heritage sites | | | ✓ | |
| | | Name and location of Religious places/centres | | | ✓ | |
| | | Name and location Archaeological monuments/sites | | | ✓ | |
| | | Name and location of Scenic | | | ✓ | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|---|-------------------------------|--|-------------------------------|------------|--------------------|---------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| | | Areas | | | | |
| | | Name and location of Tourist Resorts | | | | |
| VII. Natural Resources | 1. Land Use Classification | Total Geographical Area | 1990-2019 | | 1990- 2019 | |
| | | Forest | 1996 -1997, 2005-2019 | | | |
| | | Non-Agriculture use | 1996- 1997, 2001-2019 | | | |
| | | Barren and uncultivable land | 1996 -2012 | | | |
| | | Permanent pastures and other grazing land | 1996- 2013 | | 1996- 2013 | |
| | | Miscellaneous tree crops and groves | 1996-2011 | | | |
| | | Cultivable wasteland | 1996- 1997, 2001- 2011 | | | |
| | | Fallow land other than current fallow | 1996- 1997, 2001- 2011 | | | |
| | | Current fallow Net area sown | 1996- 1997, 2005-2011 | | | |
| | | Gross cropped area | | | | |
| | | Area sown more than once | 2001-2011 | | | |
| | | Net irrigated area | | | | |
| | | Gross irrigated area | | | | |
| | | Others | 2001- 2002, 2005-2011 | | | |
| | 2. Land Degradation | Degraded land area | 2005- 2016 | | 2006-2016 | |
| | | Degraded Irrigated land | | | | |
| | | Area affected by shifting cultivation | 2000- 2016 | | 2000-2016 | |
| | | Deforestation rate | | | | |
| | | Total salt affected land | | | | |
| | | Salinization rate | 2000- 2009, 2016 | | 2000-2009, 2016 | |
| | | Area effected by desertification | | | | |
| | 3. Waste Land | Gullied & or Ravenous Land % | 1990-2016 | | 1990-2016 | |
| | | Upland with or without Scrub % | 2000- 2011 | | 2000- 2011 | |
| | | Water Logged & marshy Land % | 1990-2016 | | 1990-2016 | |
| | | land affected by Salinity/Alkalinity Coastal/ Inland % | 1990-2016 | | 1990-2016 | |
| | | Underutilized Degraded Notified Forest Land % | 2000- 2011 | | 2000- 2011 | |
| | | Shifting Cultivation Area % | 1990-2016 | | 1990-2016 | |
| | | Degraded Land under Plantation Crops % | 1990-2016 | | 1990-2016 | |
| | | Degraded Pastures/Grazing Land % | 1990-2016 | | 1990-2016 | |
| | | Mining Industrial Wastelands % | 1990-2016 | | 1990-2016 | |
| Sands - Deserted Coastal % | | | | | | |
| Steep Slopping Area % | | 2001- 2004 | | 2001-2004 | | |
| Barren Rocky/Stony Waste/Sheet Rocky Area % | | 2001- 2011 | | 2000- 2011 | | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|-----------------------------|---|--|-------------------------------|---------|----------------|---------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| | | Snow Covered and/or Glacial Area % | 2000- 2011 | | 2000- 2011 | |
| | 4. Types of Wetlands | Names of wetlands of national importance | 2000- 2020 | | 2000- 2020 | |
| | | Names of wetlands of international importance (Ramsar site etc.) | | | | |
| | | Coastal /Estuaries | | | | |
| | | Fresh water Lakes | 2005-2020 | | 2005-2020 | |
| | | Tanks/Ponds/Reservoirs/Dams | 1997-2020 | | 1997-2020 | |
| | | Marshes (Tidal/Non-Tidal) | | | | |
| | | Swamps | | | | |
| | | Mangroves | | | | |
| | | Flood Plains | | | | |
| | | Total Area of Wetland | 1997- 2020 | | 1997- 2020 | |
| | | Others | | | | |
| | 5. Soil Types | Black Soil | | | | |
| | | Red Soil | | | | |
| | | Desert Soil | | | | |
| | | Grey and Brown Soil | | | | |
| | | Saline & Alkaline Soil | | | | |
| | | Laterite Soil | | | | |
| | | Alluvial Soil | | | | |
| | | Mountain Soil | 1990- 2020 | | 1990- 2020 | |
| Mix Red & Black Soil | | | | | | |
| Peaty Soil | | | | | | |
| VIII. Forest Resource | 1. Distribution of Forest Cover | Dense Forest | 1990- 2017 | | 1998- 2017 | |
| | | Open Forests | 1990- 2017 | | 1988- 2017 | |
| | | Mangroves | | | | |
| | | Trees outside forests | 2010- 2019 | | | |
| | | Numbers | | | | |
| | | Area in | | | | |
| | | Non Forest | 1995- 2019 | | 2013- 2019 | |
| | 2. Recorded Forest | Reserved Forest | 1990- 2019 | | 2002- 2019 | |
| | | Protected Forest | 1990- 2019 | | 2002- 2019 | |
| | | Unclassed Forest | 1990- 2019 | | 2002- 2019 | |
| | 3. Mining in Forests | Bauxite | | | | |
| | | Chromite | | | | |
| | | Copper | | | | |
| | | Iron | | | | |
| | | Manganese | | | | |
| | | Others | | | | |
| | 4. Actual Forest Cover by Density Class | Dense Forest (Crown density Cover Area above 40%) (in ha) | 1990- 2019 | | 1998- 2019 | |
| | | Open Forest (Crown density 10- 40% (in ha) | 1990- 2019 | | 1998- 2019 | |
| | | Mangrove (in ha) | | | | |
| | 5. Forest Produce | Timber poles | 2002, 2005-2007, 2010-2011 | | | |
| | | Fuel wood | 1997- 2001, 2010-2011 | | | |
| | | Pulp & match Wood | | | | |
| | | Sal seeds | | | | |
| | | Kandu/Bedi leaves | | | | |

| Module | Sub-Module | Fields | Period for which data updated | | | | |
|--------------------------|--------------------------------------|---|-------------------------------|------------|----------------|---------|--|
| | | | State-level | | District-level | | |
| | | | Annual | Monthly | Annual | Monthly | |
| | | Gums & Resins | | | | | |
| | | Cane/Rattan & Bamboo | | | | | |
| | | Grass /Fodder | | | | | |
| | | Drugs/Tannins | | | | | |
| | | Spices | 1990, 1995, 1988-1999 | | | | |
| | | Lac | | | | | |
| | | Others | 2002- 2007 | | | | |
| | 6. Joint Forest Management Committee | Name of District | | | 2002- 2020 | | |
| | No. of JFMC | 1998- 2020 | | 2002- 2020 | | | |
| IX. Water Resource | 1. Source of Water | Name of River | 1990- 2019 | | | | |
| | | Total Length | 1990-2019 | | | | |
| | | Catchment Area | | | | | |
| | | Seasonality (Perennial/Seasonal) | 1990-2019 | | | | |
| | | Canals (Length) | | | | | |
| | | Reservoirs | | | | | |
| | | Tanks, Lakes & Ponds | | | | | |
| | | Brackish Water | | | | | |
| | | Government Owned Canals | | | | | |
| | | Private Canals | | | | | |
| | | Tanks | | | | | |
| | | Wells | | | | | |
| | | Tube Wells | | | | | |
| X. Ground Water Resource | 1. Status of Ground Water | Total Replenishable Ground Water Resource | 2008-2010 | | | | |
| | | Provision for industrial/ domestic/ other uses | 2008-2011 | | | | |
| | | Available Ground Water Resource | | | | | |
| | | Net Draft | | | | | |
| | | Balance Ground Water | | | | | |
| | | Level of Ground Water Development (%) | | | | | |
| | | Utilization Ground Water Resource for irrigation in Net terms | 2008-2011 | | | | |
| | | Over Exploited | 2008-2011 | | 2008-2011 | | |
| | | Critical Area | 2008- 2011 | | 2008- 2011 | | |
| | | Gross Draft Estimated on Pro-rata basis | NA | | NA | | |
| | 2. Categorization of Water Level | Pre-Monsoon average depth to water level | | | | | |
| | | Post Monsoon average depth to water level | | | | | |
| | | No. of Over Exploited Area total Ground Water Resource | 2010- 2016 | | 2010- 2016 | | |
| | 3. Use of Ground Water | Quantity of ground water for irrigation | | | | | |
| | | Available ground water for irrigation | | | | | |
| | | Utilizable ground water for irrigation | 2008-2011 | | 2008- 2011 | | |
| | | Net ground water draft | 2008- 2011 | | 2008-2011 | | |
| | XI. Ecology | 1. Ecological | Name of Biogeographical Zones | ✓ | | | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|-----------------------------|-------------------------|---|-------------------------------|-----------------------------|-----------------------------|-----------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| | Areas | | | | | |
| | 2. Ecology Type | Name of National Parks | 2006- 2020 | | | |
| | | Name of Wildlife Sanctuaries | 1990- 2020 | | | |
| | | Name of Bird Sanctuaries | 2005-2020 | | | |
| | | Name of Tiger Reserves | | | | |
| | | Name of Elephant Reserves | | | | |
| | | Name of Biosphere Reserves | 1998- 2020 | | | |
| | 3. Botanical Gardens | Name of Protected Mangroves area (Private & Public) | | | | |
| | | Name of Botanical Garden | | | | |
| | | Area of Botanical Garden | 1998- 2021 | | | |
| | | Location | 1998- 2021 | | | |
| | 4. Zoological Parks | Uniqueness | | | | |
| | | Name of Zoological Park | 1998- 2021 | | | |
| | | Area of Zoological Park | 1998- 2021 | | | |
| | | Location | | | | |
| 5. Physiographical Features | Uniqueness | | | | | |
| | Mountain Name | 1994- 2021 | | | | |
| XII. Sanitation | 4. Hygiene & Sanitation | Height (Meter) | 1994- 2021 | | | |
| | | No. of Town covered | 2010-2020 | | | |
| | | No. of Town not covered | 2010-2020 | | | |
| | 5. Air Borne Disease | Total No. of treatment plants | 2010-2020 | | | |
| | | Type of Disease | 2005-2018 | | 2005-2018 | |
| | | Name of Disease | 2005-2018 | | 2005-2018 | |
| | 6. Water Borne Disease | No. of Deaths | 2005-2018 | | 2005-2018 | |
| | | Type of Disease | 2005-2018 | | 2005-2018 | |
| | | Name of Disease | 2005-2018 | | 2005-2018 | |
| XIII. Water Pollution | 1. | No. of Deaths | 2005-2018 | | 2005-2018 | |
| | | River Name | 2001, 2006, 2008, 2010-2020 | 2010-2020 | 2001, 2006, 2008, 2010-2020 | 2010-2020 |
| | | Location | 2001, 2006, 2008, 2010-2020 | 2010-2020 | 2001, 2006, 2008, 2010-2020 | 2010-2020 |
| | | BOD | | | | |
| | | COD | 2001, 2006, 2008, 2010-2020 | 2010-2020 | 2001, 2006, 2008, 2010-2020 | 2010-2020 |
| | | Ph | 2001, 2006, 2008, 2010-2020 | 2010-2013 | 2001, 2006, 2008, 2010-2020 | 2010-2020 |
| | | Total Coliform | 2001, 2006, 2008, 2010-2020 | 2010-2020 | 2001, 2006, 2008, 2010-2020 | 2010-2020 |
| | Conductivity | 2001, 2006, 2008, 2010-2020 | 2010-2020 | 2001, 2006, 2008, 2010-2020 | 2010-2020 | |
| | | Lake Name | 2001 | | 2001 | |
| | | Location | 2001 | | 2001 | |
| BOD | | 2001 | | 2001 | | |
| COD | | 2001 | | 2001 | | |

| Module | Sub-Module | Fields | Period for which data updated | | | |
|--------------------------|--|--|-------------------------------|---------|----------------|------------------------------------|
| | | | State-level | | District-level | |
| | | | Annual | Monthly | Annual | Monthly |
| XIV. Air Pollution | | Ph | 2001 | | 2001 | |
| | | Total Coliform | | | | |
| | | Conductivity | | | | |
| | 1. Industrial | SO ₂ | | | | 2015 |
| | | NO _x | | | | 2010-2013, 2015 |
| | | Suspended Particulate Matter (SPM) | | | | 2010-2013, 2015 |
| | | Respirable Suspended Particulate Matter (RSPM) | | | | 2013 |
| | 2. Residential | SO ₂ | | | | 2013, 2018- 2021 |
| | | NO _x | | | | 2001, 2003- 2004, 2018- 2021 |
| | | Suspended Particulate Matter (SPM) | | | | 2001, 2003- 2004 |
| | | Respirable Suspended Particulate Matter (RSPM) | | | | 2001, 2003- 2004 |
| | 3. Vehicular Pollution | No. of Vehicles | 2020 | | 2020 | |
| Type of Vehicles | | 2020 | | 2020 | | |
| XV. Bio- diversity | 1. Flora | Total Species (RET) | 1990, 2007, 2013-2014 | | | |
| | | Redbook species No. | | | | |
| | 2. Fauna | Total Species (RET) | 2012 | | | |
| | | Redbook species No. | | | | |
| XVI. Waste | 1. Type of Waste | Hazardous waste (HW) in t/a | | | | |
| | | E-waste thereof in t/a | | | | |
| | | Biomedical waste (BMW) | 2019 | | | |
| | | Municipal Solid Waste (MSW) | 2019 | | | |
| | | Plastic Waste | 2019 | | | |
| | | Waste Water | | | | |
| | 2. Clean Technology | Type of Industries | | | | |
| | | Name of technology used | | | | |
| | 3. Effluent Treatment Plant/CEPT | Name of District | | | | |
| | | No. of Plants | | | | |
| XVII. Disaster | 1. Disaster | Type of Disaster | 1990-2016 | | 1990-2016 | |
| | | Year | 1990-2016 | | 1990-2016 | |
| | | Affected districts in nos. | 1990-2016 | | 1990-2016 | |
| | | Population affected (in millions) | | | | |
| | | Damage in crore INR | | | | |

ANNEXURE - II

National Environment Survey (NES) – A Grid based Decision Support System for Sustainable Management of Natural Resources (NES-GRIDSS)

Sikkim State
Bio-Geographic Region: Himalayan

STATUS OF DATA COMPILED

2020-21

As on 31-Mar-2021

Annexure – II:**Status of Data Compiled for NES-GRIDSS: (Sikkim State ENVIS Hub): As on 31-Mar-2021**

| SN | NES-GRIDSS Module | Data Compiled for Year |
|-----|---|---|
| 1. | Module – I- Administrative | 2011-2019 |
| 2. | Module – II- Demographic | 2011 |
| 3. | Module – III – Economic Sub Module 1 - General Sub Module 2 - Employment | 2015 Data in process |
| 4. | Module – IV – Climate and Disaster Occurrence Sub Module 1 – Climate Sub Module 2 – Disaster | 2009-2018 1990-2016 |
| 5. | Module- V- Natural Resource Sub Module 1 – Land Use Classification Sub Module 2 – Wastelands Sub Module 3 – Minerals Sub Module 4 – Soil Type & Status Sub Module 5 – Forest Resource Sub Module 6 – Type of Forest Sub Module 7 – Forest Produce Sub Module 8 – Mining in Forest | 1990-2019 1990-2016 Data in process 1990-2020 1990-2019 2020 Data in process Nil |
| 6. | Module – VI- Water Resource Sub Module 1 – Status of Surface Water Sub Module 2 – Status of Ground Water | 1990-2019 2008-2011 |
| 7. | Module – VII – Ecology | 2020 |
| 8. | Module – VIII – Infrastructure Sub Module 1 – Health Services Sub Module 2 – Housing Amenities Sub Module 3 – Transport Sub Module 4 - Formal Education Sub Module 5 – Non Formal Education | 2020 2011 2020 Data in process Data in process |
| 9. | Module – IX – Agriculture | Data – 2003-18 (for sub module 2,3,5,12) For Sub module (1,4,6,7,9,10,11) Data in process |
| 10. | Module – X – Animal Husbandry and Fisheries | Data – 2012,2014-2015 and other filed data in process. |
| 11. | Module – XI – Industries and Mining | 2019 |
| 12. | Module – XII - Energy | 2019 |
| 13. | Module – XIII – Pollution | 2010-2020 |
| 14. | Module – XIV – Waste | 2016-2019 |
| 15. | Module – XV – Health | 2018 |
| 16. | Module – XVI – Heritage and Tourism | 2011 Onwards |
| 17. | Module – XVII – Funds allocated for environmental protection, resource management and engagement. | Data in process |

ANNEXURE - III



Report on

**Green Skill Development Programme
(GSDP)
certificate courses conducted by Sikkim
State ENVIS Hub during 2020-21**

As on 31-Mar-2021

Annexure – III:

Report on Green Skill Development Programme (GSDP) certificate courses conducted by Sikkim State ENVIS Hub during 2020-21: As on 31-Mar-2021

Sikkim ENVIS Hub successfully implemented GSDP training programme during 2020-21 on four certificate courses as listed under. Total 85 candidates were enrolled for the programme, out of which 75 candidates have been self-employed/ employed as on 31st of March, 2021. The training programmes were conducted during the months of January to March 2021 in partnership with several expert agencies such as Sikkim Khadi and Village Industries Board, SIMFED, State Biodiversity Board, Forest Department, Directorate of Handloom and Handicraft, JFMCs/ EDCs, Disaster Management and Mitigation entities, SREDA, Power Department, NIELIT Gangtok, SMIT Majhitar, local panchayats and other government/ autonomous entities for affective placement of candidates in respective disciplines.

All the courses mentioned below are in line with National Skill Qualification Framework (NSQF) Level 5

| SN | GSDP Courses conducted during 2020-21 | Eligibility criteria / Min. Age of candidate | No. of candidates trained | Duration of the course | Course Dates | No. of Candidates Employed/ Self-Employed post training as on 31-Mar-2021 |
|----|---|--|---------------------------|---------------------------|-------------------------------|---|
| 1. | Value Addition and Marketing of NTFP Products (Animal Origin): Wild Beekeeping and Processing | No minimum qualification 18 years and above | 25 (One batch) | 200 hrs, up to 30 days | February 11 to March 10, 2021 | 25 candidates self-employed and have started venture as bee keeper with their own scientific bee colonies. |
| 2. | Sustain and Enhance Technical Knowledge in Solar Energy Systems | Class X / School Dropout 18 years and above | 20 (One batch) | 240 hrs, up to 36 days | February 11 to March 6, 2021 | 11 candidates are employed in power department/ SREDA as lineman/ meter reader with average salary of Rs 9000 per month. Remaining 9 candidates are continuously guided, supported and tracked. |
| 3. | Forest Fire Management | Class X / School Dropout 18 years and above | 20 (One batch) | 300 hrs, up to 40 days | February 8 to March 10, 2021 | 19 candidates have been engaged as Fire Watchers in JFMCs/ EDCs. One candidate has remained unemployed as on 31-Mar-2021. |
| 4. | Value Addition and Marketing of NTFP Products (Plant Origin): Bamboo Crafts | No minimum qualification 18 years and above | 20 (One batch) | 400 hrs, up to 45 days | February 8 to March 19, 2021 | 20 candidates self-employed as bamboo artisans and have started product making and marketing. Amongst these candidates two candidates have been enrolled as master trainer in Bamboo Training Centre at Bermiok, West Sikkim. |

Total No of Applicants Received (Jan 8-18, 2021) : 136 applicants (86 Male, 50 Female)
Total No of Candidates Trained in 2020-21 : 85 candidates (53 Male, 32 Female)
Total No of Candidates Employed as on 31-Mar-2021 : 75 candidates (49 Male, 26 Female)
Total No of Candidates to be Employed post 31-Mar-2021 : 10 candidates (4 Male, 6 Female)

Tabular Overview of No. of Applicants/ Candidates Trained/ Employed during 2020-21

| SN | GSDP Course conducted in 2020-21 | No. of Applications received during the advertisement period Jan 8-18, 2021 | No. of Candidates Trained | No. of Candidates Employed/ Self-Employed as on 31-Mar-2021 | No. of Candidates to be Employed post 31-Mar-2021 |
|----|---|---|---|---|---|
| 1. | Value Addition and Marketing of NTFP Products (Animal Origin): Wild Beekeeping and Processing | 52 Male-32 Female-20 | 25 Male-15 Female-10 | 25 Male-15 Female-10 | 0 Male-0 Female-0 |
| 2. | Sustain and Enhance Technical Knowledge in Solar Energy Systems | 28 Male-10 Female-18 | 20 Male-8 Female-12 | 11 Male-5 Female-6 | 9 Male-3 Female-6 |
| 3. | Forest Fire Management | 26 Male-22 Female-4 | 20 Male-16 Female-4 | 19 Male-15 Female-4 | 1 Male-1 Female-0 |
| 4. | Value Addition and Marketing of NTFP Products (Plant Origin): Bamboo Crafts | 30 Male-22 Female-8 | 20 Male-14 Female-6 | 20 Male-14 Female-6 | 0 Male-0 Female-0 |
| | TOTAL | 136 Male-86 Female-50 | 85 Male-53 Female-32 | 75 Male-49 Female-26 | 10 Male-4 Female-6 |





Government of India
Ministry of Environment, Forest & Climate Change

Would you like to work for the Environment today? Enroll, to create a Better Tomorrow!!

GREEN SKILL DEVELOPMENT PROGRAMME (GSDP)

In line with the Skill India Mission, Ministry of Environment, Forest and Climate Change (MoEF&CC) has been implementing Green Skill Development Programme (GSDP) under which different certificate courses/ training programmes are being offered to skill unemployed youths/ school dropouts/ enthusiast above 18 years to create a green workforce in Environment Sector with sustainable livelihood opportunities.

HURRY UP!!! GRAB THIS OPPURTUNITY TO AVAIL GREEN SKILL TRAINING IN SIKKIM ABSOLUTELY FREE !!!

Government of Sikkim
Forest and Environment Department
Sikkim ENVIS Hub




Sikkim ENVIS Hub at Forest and Environment Department, Government of Sikkim is conducting following GSDP certificate courses:

| GSDP Courses Offered | Eligibility criteria | Age of candidate | No. of candidates per batch | Duration of the course | Last date to apply |
|------------------------------|--------------------------|--------------------|-----------------------------|------------------------|--------------------------------|
| 1. Beekeeping and Processing | No minimum qualification | 18 years and above | 25 candidates | 200 hrs, Up to 30 days | 18 th January, 2021 |
| 2. Solar Energy Systems | Class X / School Dropout | 18 years and above | 20 candidates | 240 hrs, Up to 36 days | |
| 3. Forest Fire Management | Class X / School Dropout | 18 years and above | 20 candidates | 300 hrs, Up to 40 days | |
| 4. Bamboo Crafts | No minimum qualification | 18 years and above | 20 candidates | 400 hrs, Up to 45 days | |

All the above courses are in line with National Skill Qualification Framework (NSQF) - Level 5.
All the above courses are **free of cost** and can be applied by Indian Nationals only. Selection of candidates per batch will be done by screening through interviews. Preference will be given to applicants residing in Sikkim State.

Apply Online at <http://www.gsdp-envis.gov.in> OR Download Application Form at <http://www.sikennis.nic.in>

For more information, contact Sikkim ENVIS Hub at:
Tel(O): 03592-280381 | E-mail: sik@envis.nic.in
Sr. Programme Officer: 8927956177 | Information Officer: 9635878286

Note: Dates and Venues for Interview and Subsequent Training shall be notified separately. The GSDP courses offered are as per the National Skill Qualification Framework (NSQF) of NSDA, Ministry of Skill Development & Entrepreneurship. Certificates will be awarded to candidates on successful completion of the course.

Advertisement circulated for GSDP Courses 2020-21 by Sikkim ENVIS Hub
w.e.f 08/01/2021 to 18/01/2021

PRESS RELEASE

**LAUNCHING OF
GREEN SKILL DEVELOPMENT PROGRAMME 2020-21 ON
FOREST FIRE MANAGEMENT | BAMBOO CRAFTS |
SOLAR ENERGY SYSTEMS | WILD BEEKEEPING AND PROCESSING**

Date: 8-11 February, 2021
Forest Conference Hall, Deorali, Gangtok



Hon'ble Minister Forest Shri Karma Loday Bhutia inaugurated GSDP on four Courses on February 8, 2021

“Green Skill Training on Four Certificate Courses begins”

The Honourable Minister Forest Shri Karma Loday Bhutia on February 8-11, 2021 at Forest Conference Hall, Deorali inaugurated the Green Skill Development Programme (GSDP) for 2021 session on four certificate courses viz Forest Fire Management, Bamboo Crafts, Beekeeping and Solar Energy Systems. This green skill training programme conducted by Sikkim ENVIS Hub of Forest and Environment Department is being participated by 85 trainees from across the state and will be conducted at various training locations such as Bermiok, Mikhola, Sikip, Kitam and Gangtok for up to 40 days. Various subject experts from SREDA, Power Department, State Biodiversity Board and Forest Department, Sikkim Khadi and Village Industries Board, SIMFED, Himalayan Science

Society, Cane and Bamboo Training Center Tripura, NIELIT Gangtok, SMIT Majhitar, GSES New Delhi and other local resource persons will be conducting the training as expert partners.

In his inaugural address, the Minister Forest extended warm welcome to all the participants and encouraged them to explore livelihood opportunities at local level through green skilling. The inaugural session was also attended by ACS-cum-PCCF Shri M L Srivastava, CCF Shri D C Nepal, CCF Shri N W Tamang, CF Shri Karma Legshey Bhutia, Director Shri B B Gurung, Joint Director Ms Kusum Gurung and other senior officers of the forest department and other line departments.

The basic aim of these GSDP courses is to impart green skill training to youths and local people who have not been able to continue education due to different financial or social constraints but have an urge to learn new things and do something fruitful. Green skills contribute to preserving or restoring environmental quality for sustainable future and include jobs that protect ecosystems and biodiversity, reduce energy and minimize waste and pollution.

The Green Skill Development Programme is being implemented in the State of Sikkim under the aegis of the Ministry of Environment, Forest and Climate Change, Government of India (*In line with Skill India Mission*) to develop green skilled workers duly amalgamating scientific and traditional approach for sustainable development of rural economy. In line with the Skill India Mission of Hon'ble Prime Minister, Ministry of Environment, Forest & Climate Change utilizing the vast network and expertise of ENVIS Hubs/ RPs, has taken up an initiative for skill development in the environment and forest sector to enable India's youth to get gainful employment and/or self-employment.

SIKKIM EXPRESS, FRIDAY, 12 FEBRUARY 2021, GANGTOK 2

Green skill training on four certificate courses begins

SE Report

GANGTOK, February 11: Forest minister Karma Loday Bhutia launched the Green Skill Development Programme (GSDP) for 2021 session on four certificate courses, viz. Forest Fire Management, Bamboo Crafts, Beekeeping and Solar Energy Systems during the programme held at Forest Conference Hall, Deorali on February 8-11.

This green skill training programme conducted by Sikkim ENVIS Hub of Forest & Environment department has participation of 83 trainees from across the State. The training will be conducted at various locations including Bermiok, Mikhola, Sikip, Kitam and Gangtok for up to 40 days, informs a press release.

Various subject experts from SREDA, Power department, State Biodiversity Board, Forest department, Sikkim Khadi and Village Industries Board, SIMFED, Himalayan Science Society, Cane and Bamboo Training Center-Tripura, NIELIT-Gangtok, SMIT, GSES-New Delhi and other local resource persons will be conducting the training.

In his inaugural address, the Forest minister extended warm welcome to all the participants and encouraged them to explore livelihood opportunities at local level through green skilling.

The inaugural session was also attended by ACS-cum-PCCF M.L. Srivastava, CCF D.C. Nepal, CCF N.W. Tamang, CF Karma Legshey Bhutia, director B.B. Gurung, joint director Kusum Gurung and other senior officers of Forest department and other line departments.

The basic aim of these GSDP courses is to impart green skill training to youths and local people who have not been able to continue education due to different financial or social constraints but have an urge to learn new things and do something fruitful.

Green skills contribute to preserving or restoring environmental quality for sustainable future and include jobs that protect ecosystems and biodiversity, reduce energy and minimize waste and pollution, the release mentions.

The Green Skill Development Programme is being implemented in the State of Sikkim under the aegis of the Ministry of Environment, Forest and Climate Change to develop green skilled workers duly amalgamating scientific and traditional approach for sustainable development of rural economy. In line with the Skill India Mission, the Ministry of Environment, Forest & Climate Change, utilizing the vast network and expertise of ENVIS Hubs/ RPs, has taken up an initiative for skill development in the environment and forest sector to enable India's youth to get gainful employment and/or self-employment, the release informs.



News clip (Courtesy: Sikkim Express dated 12-Feb-2021)

1. Implementation of GSDP Course : Value Addition and Marketing of NTFP Products (Animal Origin)- Wild Beekeeping and Processing 2020-21



Sikkim ENVIS Hub under the aegis of the Ministry of Environment, Forest and Climate Change, Government of India hosted at Forest and Environment Department, Government of Sikkim successfully implemented the Green Skill Development Programme 2020-21 on “Value Addition and Marketing of NTFP Products (Animal Origin): Wild Beekeeping and Processing”, a certificate course with National Skill Qualification Framework (NSQF) level 5 for 25 candidates selected from amongst 52 applicants across the State.

A month-long training programme w.e.f February 11 to March 10, 2021 was organized with theoretical and field based hands-on exercises to develop green skilled workers duly amalgamating scientific and traditional approach for sustainable development of rural economy. The basic aim of this GSDP course was to impart green skill training to youths and local people who have not been able to continue education due to different financial or social constraints but have an urge to learn new things and do something fruitful. The training provided hands-on knowledge and understanding about the wild beekeeping and processing vis-à-vis ways of conversation and effective farming system in order to diversify rural livelihood opportunities through marketing of honey and its products in a sustainable manner. The course aimed to green skill the grassroots to maintain honey bee health, its productivity and explore the possibilities and considerations of how one can both profit from and contribute to the success of these amazing pollinators with a sustainable approach.



2020-21 batch of training inducted 25 aspiring candidates basically unemployed youths/ unskilled farmers having urged for bee farming. Common native species of bees such as *Apis cerana* subsp. *cerana*, *A. cerana* subsp. *himalayana*, *A. dorsata*, and *A. laboriosa* were the primary bee species handled during a month-long training programme. Along with the hands-on training, each candidate was provided with scientific wooden bee box (one each), basic tools and clave hives along with bee

colonies. This pool of GSDP trainees are now skilled **beekeepers/ honey farmers, apiarists or apiculturist**. The green skilled certified beneficiaries have successfully set up bee apiary in their respective premises for sustainable practice of honey extraction and marketing of honey for livelihood support. This pool of green skilled workforce will be tracked for three years with support by the coordinating agencies. On the marketing front, the honey fetches about a minimum of 1000 to 1200 rupees per kilogramme and this brings enough incentive to a beekeeper. Honey finds easy passage in the local market where the demand has always been higher than the supply.

| GSDP Course | Eligibility criteria / Min. Age of candidate | No. of candidates trained | Duration of the course | Course Dates | No. of Candidates Employed/ Self-Employed post training as on 31-Mar-2021 |
|---|--|---------------------------|---------------------------|-------------------------------|--|
| Value Addition and Marketing of NTFP Products (Animal Origin): Wild Beekeeping and Processing | No minimum qualification 18 years and above | 25 (One batch) | 200 hrs, up to 30 days | February 11 to March 10, 2021 | 25 candidates self-employed and have started venture as bee keeper with their own scientific bee colonies. |

Resource Persons engaged for ‘Wild Beekeeping and Processing’ GSDP course 2020-21:

1. Dr. Bharat Kumar Pradhan, Scientific Associate, Sikkim Biodiversity Board
2. Mr. Shiva Sharma, Beekeeping Expert, Sikkim Khadi and Village Industries Board
3. Mr. Jeevan Chettri, Bee Expert and Bee Farmer, Melli Kerabari, South Sikkim
4. Mr. Jiwan Sharma, General Manager, Sikkim State Co-operative Supply and Marketing Federation Ltd. (SIMFED)
5. Mrs Sumitra Chettri, Panchayat President, Kitam Suntaley GPU, South Sikkim

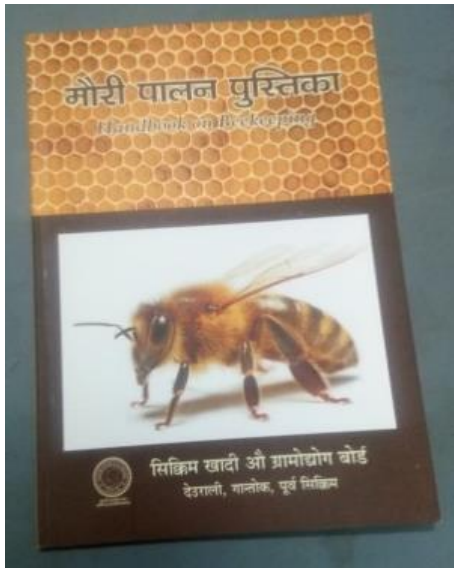
Training Centres/ Hubs Infrastructure used for Training:

1. Sidkeong Tulku Forest Conference Hall, Gangtok, East Sikkim (Theoretical)
2. Mikhola, South Sikkim (Practical)
3. Sikip-Tukdang, Lower Omchu, South Sikkim (Practical)
4. Upper Omchu, South Sikkim (Practical)
5. Munal Club Community Centre/ Hall, Kitam, South Sikkim

Tools/ Study Materials Used:

1. GSDP Course Materials in the form of pamphlet and training manual in local vernacular language (Nepali) were provided to the candidates.
2. Beekeeping training video tutorials.
3. Beekeeping tools such as bee veil, wild bee capturing net, grafting needle, queen excluder sheet, honey extractor drum, towel, knife, smoker, bucket, mug, que uniform, stationeries, kit bag etc.
4. One scientific bee box (two layered) each along with bee colonies retrieved from the wild was provided during the course of the training.
5. One clay hive – preparation and demonstration.

Evaluation of Trainees: Candidates were continuously evaluated on weekly basis by a set by 50 questions taken through in-person interaction and hands-on/ practical demonstration.



आफ्नो घरमा राखेर सहजको फाइदा उठाउन सक्छौं। त्यति मात्र नभार फसलहरूमा पराग तत्र प्रणाली (Cross Pollination) आदान-प्रदान गराई फसलमा वृद्धि गराइदिने एक साधन भएको छ। संसारमा एकमात्र कीरा हो मौरी जसले पराग तत्र प्रणालीको संगम गराइदिन्छ।

घर मौरी एक परिवारभित्र तीन प्रकारका मौरीहरू पाइन्छन्। जसले - रानी मौरी, भाले मौरी र श्रमिक मौरी।

रानी मौरी : एक मौरी परिवारभित्र एउटै मात्र रानी हुन्छ। रानी मौरी कर्मा मौरीभन्दा ठूलो र दिव्य देखिन्छ। यसको रंग सुनैलो-कालो देखिन्छ। यो मौरी एकदमै विस्तार-विस्तार हिंडेर आफ्नो घरको परिचरमा गरिन्छ। रानी मौरीको वरिपरि सेवक मौरीहरू घुमिन्छन्, किनकि रानीलाई कुनै दुःखमले आक्रमण गर्न नसकोस् भनेर। रानी मौरीलाई समय-समयमा भोजन खुवाउनुपर्छ। रानी आफै खाना खादिन। धार दिनदेखि आठ दिनसम्मको बच्चा मौरीको टाउकोमा Phorengen gland and maxillary gland को विकास हुन्छ। त्यसबाट एक प्रकारको तरल पदार्थ (Royal Jelly) राजभोजन निस्कन्छ। यही राजभोजन बच्चा मौरीले रानी

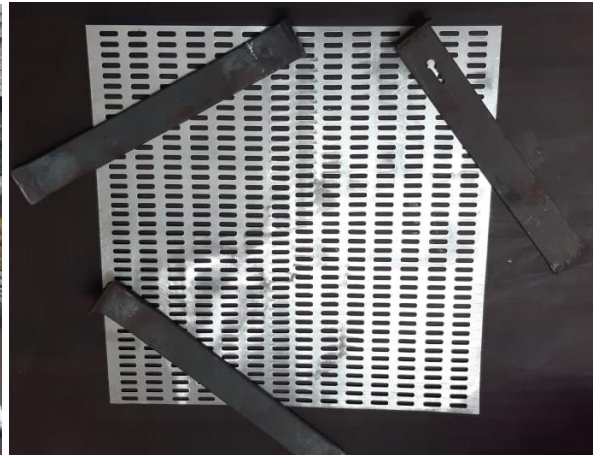
मौरीलाई खुवाउनुपर्छ। एउटा गर्भित अण्डाबाट सोह दिनमा रानी मौरी कोष्टबाट बाहिर निस्कन्छ। कोष्टदेखि बाहिर निस्केर आफ्नो



घर परिचरमा गरेर घरको अवस्था हेर्छे। परिवार घर-घोर भएको बाह्य लागिपर्छ अर्को रानी छ वा छैन भनेर हेर्छे। यदि गोलाका परिवार सानो छ भने अर्को रानीलाई नजम्किने कोष्टभित्र काटेर सार्किन्छे।

रानी मौरी जन्मेको चार दिनमा मृत तरुनी हुन्छे। यस्तो मृत तरुनी भएपछि उसको शरीरबाट एक प्रकारको मीठो गन्ध निस्कन्छ। यस्तो मीठो कन्या गन्ध घाल पाएर वरपरको हुँडारबाट भाले मौरीहरू तरुनी कन्या रानीसित सम्भोग गर्नको निम्ति बाकसमा आउन थाल्छे। सम्भोग बाकसदेखि बाहिर अनि धेरै माथि खुल्ला आकाशमा हुन्छ। कुनै प्रकारको मौसम नराप्ने भएर पानी परेको समयमा सम्भोग हुँदैन। सम्भोगको निम्ति

Beekeeping training handbook in Nepali Language (Courtesy: Sikkim Khadi and Village Industries Board)



Beekeeping Tools provided to trainees



Pure Honey collected and bottled locally after scientific extraction



Group photo of GSDP trainees (Solar Energy Systems and Beekeeping) along with Experts and ENVIS team during the combined theory class - Basic Orientation on subject matter



Theory classes and interaction indoors

Beekeeping trainees were 2-day given basic orientation on Biodiversity Conservation and Climate Change, Opportunities for Green Skill Development, bees and food security, beekeeping and understanding honey bee species, life cycle and morphology, bee products by experts Dr. Bharat Kumar Pradhan, Scientific Associate from Sikkim State Biodiversity Board and Shri Shiva Sharma, Bee Expert from Sikkim Khadi and Village Industries Board during the indoor theoretical sessions held at Sidkeong Tulku Forest Conference Hall, Deorali, Gangtok.

Trainees were given insights on scientific bee keeping practices where honey extraction for marketing ensures that the bee colony remains intact without damaging the egg cells / brood and the colony. As in traditional practice, most bee keepers in sake of honey extract the entire hive along with the brood which disturbs the colony in which bees are chased away with smoke. While in scientific approach, the brood is not disturbed and the honey production frequency is enhanced to 4 cycles in a year while in traditional practice honey extraction in only once a year.



Theory classes and interaction outdoors at Omchu and Mikhola South Sikkim

Beekeeping trainees are escorted to local bee apiaries at Omchu and Mikhola in South Sikkim where traditional bee keeping practices were observed. To understand the benefits of scientific management of beekeeping for extraction of pure honey, conservation of bees and its propagation through pollution and crop production, sites with traditional bee hives mostly in logs and bee hives from the wild were selected for capturing and shifting through sustainable and scientific approach. For this outdoors/ field based orientation on understanding the bee behavior and climate patterns for setting up bee colony scientifically in layered bee boxes made of wood and clay were imparted.

Month-long training mostly included hands-on exercises in regard to bee capture, shifting of bee colony, apiary management, preparation and installing of bee hives in scientific wooden boxes, preparation of clay hives, bee disease management, cleaning of bee colony, cleaner production and waste minimization, bee colony separation, grafting, queen cell preparation sustainable practices for honey extraction and marketing.

Trainees were also oriented on various state and central loan schemes under small scale marketing enterprises for setting of entrepreneurship as bee keeper or apiarist.

Success Indicators: All the trainees enthusiastically took part in the month-long training programme and gained handful of experience and knowledge in scientific beekeeping practices. All trainees were provided scientific bee boxes and clay hives along with one bee colony each for setting up venture as beekeeper. All the bee colonies are now successfully set up and bee movement has been very consistent and in next 3 to 4 month these green skilled beekeepers will be able to extract pure honey without disturbing the bee colony and market to support livelihood.

Training Photographs





Valedictory: Valedictory session was organised at Kitam Community Center, South Sikkim on March 10, 2021 in presence of Kitam Suntaley GPU Panchayat President Smt Sumitra Chettri as Chief Guest. Also present were Panchayat V. President, General Secretary and other local dignitaries who appreciated and lauded the GSDP scheme of the Ministry (MoEF&CC) in giving income generation and sustainable development opportunities to the rural populace. Also present were Shri Shiva Prasad Sharma, Bee Expert from Sikkim Khadi and Village Industries Board, Smt Kusum Gurung, Joint Director ENVIS and Shri B B Gurung, Director of Forest and ENVIS Coordinator. A positive vibe amongst candidates was witnessed and they were assured full support in their endeavours as Green Work Force of the Nation by local authorities. All Beekeeping trainees have successfully set up bee colony at their respective premises.

GREEN SKILL DEVELOPMENT PROGRAMME
On “Wild Beekeeping and Processing” (NSQF-5, 200 Hrs)
February 11 – March 10, 2021
Sikkim ENVIS Hub, Forest and Environment Department

DAY-WISE PROGRAMME SCHEDULE

Chief Collaborating Partner: Sikkim Khadi & Village Industries Board (SKVIB)


Co-Partner Agencies for Subject Experts: State Biodiversity Board (SBB), SIMFED






| DAY | DATE | Venue | PROGRAMME |
|--------|------------|---|--|
| Day 1 | 10/02/2021 | All trainees to arrive at Deorali, Gangtok | |
| Day 2 | 11/02/2021 | Forest Conference Hall, Gangtok | 11.00 AM – 12.30 PM: Inaugural session 01.30 – 4.30 PM: Introduction / Basic orientation |
| Day 3 | 12/02/2021 | Forest Conference Hall, Gangtok | 10.00 AM - 01.00 PM: Bees and food security; Biodiversity Conservation (Theory), SBB 02.00-04.00 PM: Introduction to Beekeeping; Understanding honey bee species, life cycle and morphology; Bee products (Theory), SKVIB |
| Day 4 | 13/02/2021 | Aho, East Sikkim | Site visit for basic orientation of apiary and bee box manufacturing unit, SKVIB |
| Day 5 | 14/02/2021 | Trainees Return to their respective Stations | |
| Day 6 | 15/02/2021 | Assignment work – Study on Beekeeping Handbook and Site Preparation | |
| Day 7 | 16/02/2021 | | |
| Day 8 | 17/02/2021 | Mikhola, South Sikkim | Hands-on Field Activities |
| Day 9 | 18/02/2021 | -do- | Hands-on Field Activities |
| Day 10 | 19/02/2021 | -do- | Hands-on Field Activities |
| Day 11 | 20/02/2021 | -do- | Bee capturing and Apiary Management |
| Day 12 | 21/02/2021 | | |
| Day 13 | 22/02/2021 | Tukdan-Sikip, South Sikkim | Hands-on Field Activities |
| Day 14 | 23/02/2021 | -do- | Hands-on Field Activities |
| Day 15 | 24/02/2021 | -do- | Hands-on Field Activities |
| Day 16 | 25/02/2021 | -do- | Bee capturing and Apiary Management |
| Day 17 | 26/02/2021 | | |
| Day 18 | 27/02/2021 | Mikhola and Sikip, South Sikkim | Installation of Scientific Bee Boxes/ Capturing and Setting up of Apiary |
| Day 19 | 28/02/2021 | | |
| Day 20 | 01/03/2021 | Mikhola and Sikip, South Sikkim | Exposure Visit – Clay hive preparation, installation and Management |
| Day 21 | 02/03/2021 | | |
| Day 22 | 03/03/2021 | | |
| Day 23 | 04/03/2021 | | |
| Day 24 | 05/03/2021 | | |
| Day 25 | 06/03/2021 | Trainees to prepare and install clay hives at respective premises | |
| Day 26 | 07/03/2021 | Trainees to arrive at Gangtok | |
| Day 27 | 08/03/2021 | Mikhola and Sikip, South Sikkim | Cleaner Production and Waste Minimization |
| Day 28 | 09/03/2021 | Mikhola and Sikip, South Sikkim | Enterprise Management & Marketing, SIMFED |
| Day 29 | 10/03/2021 | Kitam, South Sikkim | Enterprise Setup/ Loans under SKVIB |
| Day 30 | 11/03/2021 | Candidates return | |






Hands-on Field Activities: Bee colonisation, Grafting, Extraction and Processing, Apiary Management, Seasonal Management, Waste Management, Bee capturing and colonisation, Clay hive preparation and Management

List of GSDP Participants for the Certificate course "Wild Beekeeping and Processing" – 2020-21

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-----------------------|--------|----------|---------------|--------------|------------|--|---|--|
| 1 | Karna Bahadur Rai | M | OBC | 01-01-1976 | KARA01011976 | 8001856722 | Lower Omchu, Wok, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 2 | Mangal Kumar Rai | M | OBC | 27-09-1966 | MANG27091966 | 7029477397 | Lower Omchu, Wok, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 3 | Krishna Bahadur Rai | M | OBC | 08-04-1978 | KRIS08041978 | 7407232404 | Tukdang, Lower Omchu, Wok, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 4 | Harka Bahadur Lepcha | M | ST | 01-01-1965 | HARK01011965 | 8327290491 | Reshi Bazar, Tinzerbong GPU, West Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 5 | Jiwan Kumar Rai | M | OBC | 30-06-1992 | JIWA06031992 | 7427991428 | Lower Hathidunga, West Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 6 | Amrita Rai | F | OBC | 23.07.1986 | AMRI23071986 | 9002112801 | Sadam L. Suntoley, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary |
| 7 | Chandra Kumar Pradhan | M | OBC | 06-08-1973 | CHAN06081973 | 6297494554 | Melli Dara, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-----------------------|--------|----------|---------------|--------------|------------|-------------------------------------|---|--|
| 8 | Krishna Kumar Pradhan | M | OBC | 19-07-1979 | KRIS19071979 | 7872981566 | Melli Dara, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 9 | Santa Kumar Rai | M | OBC | 02-05-1986 | SANT02051986 | 7432828326 | lower Mikhola Daragoan South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 10 | Devi Maya Darjee | F | SC | 09-08-1983 | DEVI09081983 | 9609089323 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 11 | Meera Darjee | F | SC | 05-03-1981 | MEER05031981 | 7550823719 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 12 | Sabita Darjee | F | SC | 05-10-1981 | SABI05011981 | 8016120261 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 13 | Babita Tamang | F | ST | 25-01-1994 | BABI25011994 | 9800363153 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 14 | Jeo Louis Rai | M | OBC | 20-04-1995 | JEO20041995 | 9732459204 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|--------------------|--------|----------|---------------|--------------|------------|-----------------------------------|---|--|
| 15 | Suran Kumar Rai | M | OBC | 10-04-1989 | SURA10041981 | 9679228968 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 16 | Bishnu Maya Limboo | F | ST | 10-04-2001 | BISH10042001 | 7501979674 | Lower Kamling West |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 17 | Tara Rai | F | OBC | 12-02-1981 | TARA12021981 | 9647780073 | Mikhola South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 18 | Naren Darjee | F | SC | 15/28/1982 | NARE15081982 | 954771842 | Tangzi South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 19 | Bibak Darjee | M | SC | 23-02-1992 | BIBA23021992 | 8016120261 | Mickhola Bomtar, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 20 | Anita Sharma | F | OBC | 02.07.1992 | ANIT07021992 | 8391853518 | L. Suntaley near Makerzong School |  | Self-employed as Beekeeper. Successfully set up bee apiary. |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|---------------------|--------|----------|---------------|--------------|------------|--------------------------------|---|--|
| 21 | Roshan Lepcha | M | ST | 16.02.1992 | ROSH16021992 | 9775067700 | Lower Hathidunga, West Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 22 | Ram Bahadur Chettri | M | OBC | 03.04.1977 | RAM_03041977 | 9733327146 | Zeel Hathidunga, West Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 23 | Bijay Kumar Pradhan | M | OBC | 19.09.1985 | BIJA19091985 | 9593985574 | Reshi Bazar, West Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 24 | Lalit Rai | M | OBC | 29.04.1987 | LALI29041987 | 7319025354 | Lower Omchu, Wok, South Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |
| 25 | Sumitra Subba | F | ST | 14.10.1981 | SUMI14101981 | 8391876042 | Martam Bermoik, West Sikkim |  | Self-employed as Beekeeper. Successfully set up bee apiary. |

2. Implementation of GSDP Course : Value Addition and Marketing of NTFP Products (Plant Origin)- Bamboo Crafts 2020-21



Sikkim ENVIS Hub under the aegis of the Ministry of Environment, Forest and Climate Change, Government of India hosted at Forest and Environment Department, Government of Sikkim successfully implemented the Green Skill Development Programme 2020-21 on “Value Addition and Marketing of NTFP Products (Plant Origin): Bamboo Crafts”, a certificate course with National Skill Qualification Framework (NSQF) level 5 of 400 hours duration for 20 candidates selected from amongst 30 applicants across the State. A month and half long training programme w.e.f February 8 to March 19, 2021 was organized with theoretical and field based hands-on exercises at Bamboo Training Centre, Bermiok, West Sikkim and Gangtok, East Sikkim with experts from Cane and Bamboo Training Centre (CBTC), Tripura.

The GSDP course on Bamboo Crafts broadly covered aspects such as species and products range of bamboo, operation of processing machine, conversion of bamboo, product making and product design, furniture making etc. The programme aimed to develop skillful youths in a batch of 20 candidates to sustainably use local natural resources to generate income for sustaining livelihood and boost rural economy. Sikkim ENVIS Hub and the host organization have established collaboration with local agencies and experts to ensure proper marketing of the products so that the returns benefit the hard work of the skilled youths.

| GSDP Course | Eligibility criteria / Min. Age of candidate | No. of candidates trained | Duration of the course | Course Date | No. of Candidates Employed/ Self-Employed post training as on 31-Mar-2021 |
|---|--|----------------------------------|---------------------------|------------------------------|---|
| Value Addition and Marketing of NTFP Products (Plant Origin): Bamboo Crafts | No minimum qualification 18 years and above | 20 candidates (one batch) | 400 hrs, Up to 45 days | February 8 to March 19, 2021 | 20 candidates are self-employed as bamboo artisans and have started product making and marketing. Amongst these candidates two candidates have been enrolled as master trainer at Bermiok, West Sikkim. |



Hon'ble Minister Forest Shri Karma Loday Bhutia inaugurated GSDP Course 2020-21 on Bamboo Crafts and Forest Fire Management on February 8, 2021

Resource Persons engaged for 'Bamboo Crafts' GSDP course:

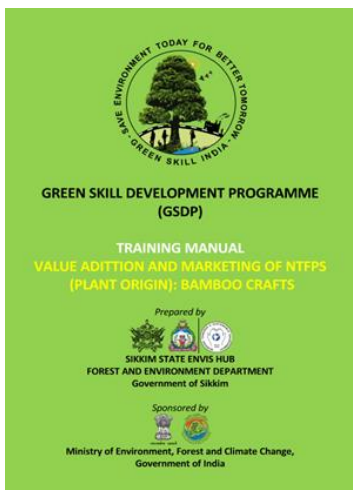
1. Dr Bharat Kurmar Pradhan, Biodiversity Expert, State Biodiversity Board Sikkim
2. Dr. Tika Prasad Sharma, Bamboo Expert, Himalayan Science Society (HSS)
3. Shri Jatan Sharma, Bamboo Expert, CBTC Tripura
4. Shri Narayan Das, Bamboo Expert, CBTC Tripura
5. Shri Pratiman Sharma, Assistant Master Trainer (He was a GDSP trainee of 2019-20 batch)

Training Centres/ Hubs Infrastructure used for Training:

1. Sidkeong Tulku Forest Conference Hall, Gangtok, East Sikkim (Theoretical)
2. Directorate of Handicraft & Handloom, Gangtok (exposure visit)
3. Bamboo Training Centre, Bermiok, West Sikkim (hands-on)

Tools/ Study Materials Used:

1. GSDP Course training manual in the form of booklet.
2. Bamboo crafting complete tool set, bamboo culms, kit bag, uniform etc.



Evaluation of Trainees: Candidates were continuously evaluated on daily basis based on the progress of hand skills developed and understanding of the course.



The Hon'ble Chief Minister of Sikkim Shri Prem Singh Tamang and the Hon'ble Minister-cum Area MLA Shri Lok Nath Sharma visited GSDP Bamboo Crafts training centre at Hee-Bermiok West Sikkim late evening on 05/03/2021 while taking stock of various development activities at West Sikkim.



Success Indicators: MoEF&CC's Sikkim ENVIS Hub at Forest and Environment Department, Gangtok successfully conducted and completed month and half long GSDP certificate course on Bamboo Crafts for 20 candidates w.e.f from Feb 8 to Mar 19, 2021. Valedictory session was held on 19th March 2021 at Gangtok chaired by Shri N W Tamang, IFS CCF (Env/HQ) in presence of JD ENVIS Mrs Kusum Gurung, Experts Dr Tika Psd Sharma and Dr Bharat Kr Pradhan. Various bamboo products prepared by trainees during the course were exhibited. The host department has approved to allocate a marketing outlet in Forest Secretariat premise for the candidates. Cost valuation of exhibited products was done ranging Rs 50 to 2500 for items ranging from souvenirs, baskets, dustbin, trays, lamp covers, decorative and small furniture. Trainees have showed keen interest in developing more products for marketing through the departmental outlet whose rental fee is minimal of Rs 900 per month and is expected to be taken over by Sikkim ENVIS Hub during next FY 2021-22 for GSDP beneficiaries.



Valedictory pictures dated 19/03/2021



Shri Jatan Sharma and Shri Narayan Das, Bamboo Experts from CBTC Tripura were presented memento for their imparting hands-on training to the trainees

GREEN SKILL DEVELOPMENT PROGRAMME
On “Value Addition and Marketing of NTFPs (Plant Origin): Bamboo Crafts” (NSQF-5, 400 Hrs)
February 8 - March 19, 2021
Sikkim ENVIS Hub, Forest and Environment Department

DAY-WISE PROGRAMME SCHEDULE

Chief Collaborating Partner: Himalayan Science Society (HSS), Cane and Bamboo Technology Centre (CBTC), Tripura

| DATE | VENUE | PROGRAMME |
|--------------------------|--|--|
| 07/02/2021 | All Trainees arrive at Gangtok | |
| 08/02/2020 | Forest Conference Hall, Deorali, Gangtok | 11.00 AM – 12.30 PM: Inaugural session 01.30 – 4.30 PM: Introduction / Basic orientation; Biodiversity Conservation and Climate Change - Opportunities for Green Skill Development; Group Discussion, Day Summarization and Way Forward |
| 09/02/2021 | Gangtok, East Sikkim | 10.00AM- 01.00 PM Exposure visit cum Demonstration of bamboo handicrafts at Handicrafts, Zero Point , Gangtok - Dr. Tika Prasad Sharma, Bamboo Expert, HSS Candidates travel to Bermiok West Sikkim after lunch |
| 10/02/2021 | Bermiok, West Sikkim | Exposure Visit and orientation |
| 11/02/2021 to 01/03/2021 | Training Centre, Bermiok, West Sikkim | Theory & Practical – Bamboo Crafts |
| 02/03/2021 to 16/03/2021 | Training Centre, Bermiok, West Sikkim | Product Making and Finishing |
| 17/03/2021 | Trainees arrive at Gangtok | |
| 18/03/2021 | Forest Conference Hall, | Cleaner Production and Waste Minimization / Site visit |
| 19/03/2021 | Gangtok, East Sikkim | Product costing and Valedictory |

COURSE CONTENT

| Sl. No | Course | Time (in hrs) |
|--------|---|--|
| 01 | Introduction about Bamboo: (Important of bamboo, distribution & Identification of species used for handicrafts making). | 10 Hrs (Theory) |
| 02 | Bamboo culm harvesting and handling: (Age, harvesting technique, season & storage of culm/bamboo). | 40 Hrs (Theory & Practical) |
| 03 | Bamboo preservation techniques: (Traditional & Chemicals methods) | 50 Hrs (Theory & Practical) |
| 04 | Bamboo Handicrafts making: a) Training on tools operation and maintenance. b) Training on bamboo utility products (Tray, dustbin, basket, pen stained, etc.). c) Training on bamboo weaving products.(Lamp set, food basket etc.) | 280 Hrs (Practical) |
| 05 | Marketing of bamboo handicrafts (Theory & Practical/ Exposure visits) (Challenges & Potential). | 20 Hrs (Theory & Practical/ Exposure visits) |
| | Total | 400 Hrs |

Photographs



Exposure Visits to BSI, Gangtok and DHH, Gangtok



Bamboo culm harvesting and processing














Training on bamboo crafts


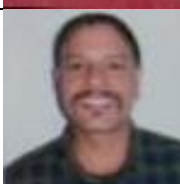
Photographs on Training






List of GSDP Participants for the Certificate course "Value Addition & Marketing of NTFPs (plant origin): Bamboo Crafts" 2020-21

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-------------------|--------|----------|---------------|---------------|------------|--|---|-----------------------------------|
| 1 | Bimla Chettri | F | OBC | 14-06-1990 | BIML 14061990 | 8436098402 | Lower Martam Bermiok West Sikkim |  | Self - Employed as Bamboo Artisan |
| 2 | Ram PD Sharma | M | G | 01-01-1980 | RAM 01011980 | 8348569892 | Bermjok Berthang Rangpo |  | Self- Employed as Bamboo Artisan |
| 3 | Nem Hang Subba | M | ST | 18-06-1991 | NIM 18061991 | 7317897859 | Sumbok Busty Berthang West Sikkim |  | Self- Employed as Bamboo Artisan |
| 4 | Suk Bahadur Subba | M | ST | 17-03-1987 | SUK 07031987 | 8170034289 | Barnyak Barthang GPU Barthang Bermiok |  | Self- Employed as Bamboo Artisan |
| 5 | Mendel Amsih | M | ST | 05-03-1999 | MEND 05031999 | 9800320919 | Bargaon PS, Barithlangsa Karbi Anglong Assam |  | Self- Employed as Bamboo Artisan |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|---------------------|--------|----------|---------------|---------------|------------|--------------------------------------|---|---------------------------------|
| 6 | Gopi Krishna Sharma | M | O BC | 05-01-1999 | GOPI 05011999 | 9593720963 | Bermiok West Sikkim |  | Self Employed as Bamboo Artisan |
| 7 | Durga Prasad Sharma | M | OBC | 11/16/1993 | DURG 11081993 | 7797845460 | Barthang Rungdu West Sikkim |  | Self-Employed as Bamboo Artisan |
| 8 | Kamal Kr Sharma | M | OBC | 28-03-1997 | KAMA 28031997 | 9734538089 | Sambok 13th Mile Bermiok West Sikkim |  | Self-Employed as Bamboo Artisan |
| 9 | Santu Subba | M | ST | 11.08.1983 | SANT 11081983 | 9593981429 | Bermiok West Sikkim |  | Self-Employed as Bamboo Artisan |
| 10 | Bepen Hang Subba | M | ST | 11.11.1999 | BEPE 11111999 | 9083355393 | Gyalsing Langang, West Sikkim |  | Self-Employed as Bamboo Artisan |
| 11 | Manju Chattri | F | OBC | 26-02-1995 | MANJ 26021995 | 9083710951 | Rhenock East Sikkim |  | Self-Employed as Bamboo Artisan |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-------------------|--------|----------|---------------|---------------|------------|---|---|---------------------------------|
| 12 | Khus Maya Pradhan | F | OBC | 01-01-1982 | KHUS 01011982 | 8967317663 | Sumbuk Kartikey South Sikkim |  | Self-Employed as Bamboo Artisan |
| 13 | Uma Chettri | F | OBC | 04-03-1995 | UMA 04031995 | 8436148674 | Rhenock Khamdung East Sikkim |  | Self-Employed as Bamboo Artisan |
| 14 | Jai Raj Manger | M | OBC | 28.12.2000 | JAI_28122000 | 8389063678 | Salghari South Sikkim |  | Self-Employed as Bamboo Artisan |
| 15 | Azok Lepcha | M | ST | 07-08-1979 | AZAK 07081979 | 9735338140 | Lower Hathidunga, West Sikkim |  | Self-Employed as Bamboo Artisan |
| 16 | Diniyal Rai | M | OBC | 18-05-1987 | DINI 18051987 | 7872894111 | Zeel, Sangadori GPU, Richenpong, W/Sikkim |  | Self-Employed as Bamboo Artisan |
| 17 | Som Kiran Sharma | M | OBC | 07-03-1985 | SOM 07031984 | 9609855461 | Sumbuk South Sikkim |  | Self-Employed as Bamboo Artisan |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-------------------|--------|----------|---------------|---------------|------------|----------------------------------|---|--|
| 18 | Reshma Rai | F | OBC | 29-10-1989 | RESH 29011989 | 9002130924 | Salghari South Sikkim |  | Self-Employed as Bamboo Artisan |
| 19 | Yog Prasad Rai | M | OBC | 04-04-1968 | YOK 04041968 | 7797294183 | Sumbuk South Sikkim |  | Self-Employed as Bamboo Artisan (Selected as Master Trainer) |
| 20 | Dhan Kumari Thapa | F | OBC | 20-08-1984 | DHAN 20081984 | 7063756391 | Lower Martam Bermiok West Sikkim |  | Self-Employed as Bamboo Artisan (Selected as Master Trainer) |

3. Implementation of GSDP Course : Forest Fire Management 2020-21



Sikkim ENVIS Hub under the aegis of the Ministry of Environment, Forest and Climate Change, Government of India hosted at Forest and Environment Department, Government of Sikkim successfully implemented the Green Skill Development Programme 2020-21 on “Forest Fire Management”, a certificate course with National Skill Qualification Framework (NSQF) level 5 of 300 hours duration for 20 candidates selected from amongst 26 applicants across the State.

A month-long training programme w.e.f February 8 to March 10, 2021 was organized with theoretical and field based hands-on exercises to develop green skilled workers duly amalgamating scientific and modern approach for control and management of forest fires through sustainable activities such as composting for development of organic manure for marketing as a support to livelihood. The training was imparted by experts from Forest and Environment Department mostly at forest localtions of Kitam premises at South Sikkim.

| GSDP Course | Eligibility criteria / Min. Age of candidate | No. of candidates trained | Duration of the course | Course Date | No. of Candidates Employed/ Self-Employed post training as on 31-Mar-2021 |
|------------------------|--|---------------------------|---------------------------|------------------------------|---|
| Forest Fire Management | Class X / School Dropout 18 years and above | 20 (One batch) | 300 hrs, Up to 40 days | February 8 to March 10, 2021 | 19 candidates have been engaged as Fire Watchers in JFMCs/ EDCs. One candidate has remained unemployed as on 31-Mar-2021. |

The GSDP course on Forest Fire Management broadly aimed to provide a comprehensive understanding and basic skill in handling of forest fires with modern techniques/equipment in the pursuit. It course was imparted to explain the causes and the effects, impacts of forest fires, forest degradation and its impact on ecosystem, forest fire safety tips, forest fire monitoring, application of remote sensing and GIS in forest fire, etc. The course facilitated development of forest disaster preparedness, mitigation & management, leadership among individuals at the ground. The

candidates are now able to contribute in generating awareness and up-gradation for sustainable development in the community.

The area of interest for the training was Kitam, South District due to the fact that Kitam has a Bird Sanctuary and the area most prone to forest fires. The Reserve and Protected Forest here are prone to forest fires due to its proximity to the district highways and the inter-linking roads. It was felt imperative to target these areas for creating a pool of forest fire fighters, trainers and ambassadors to save the natural forest of the State.



Hon'ble Minister Forest Shri Karma Loday Bhutia inaugurated GSDP Course 2020-21 on Bamboo Crafts and Forest Fire Management on February 8, 2021

Success Indicator: Out of the 20 trainees, 19 candidates have been successfully employed as fire watchers under Territorial Division South and Joint Forest Management Committees (JFMCs), Eco-Development Committees (EDCs) that are local bodies of State Forest and Environment Department and under Disaster Management entities. Candidates enrolled under JFMS/ EDC have started collecting dry leaves and composting to prepare organic manure, bio-mass fuel for marketing.



Valedictory session was organised at Kitam Community Center, South Sikkim on March 10, 2021 in presence of Kitam Suntaley GPU Panchayat President Smt Sumitra Chettri as Chief Guest.

Resource Persons engaged for ‘Forest Fire Management’ GSDP course 2020-21:

1. Shri Jigme S. Tsewang, DFO (Survey & Demarcation, CAMPA, Social Forestry),
2. Shri. Tsheten Tashi Lepcha, ACF (T), Namchi, South Sikkim
3. Smt. Bindya Subba, ACT (T), Soreng, West Sikkim
4. Dr. Bharat Kumar Pradhan, Scientific Associate, Sikkim Biodiversity Board



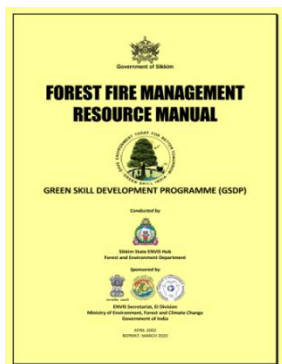
Candidates with subject expert (in the center) Shri Jigme S. Tsewang, DFO during the post inaugural theoretical session at Forest Conference Hall, Gangtok on February 9, 2021

Training Centres/ Hubs Infrastructure used for Training:

1. Forest Conference Hall, Gangtok (Theoretical)
2. Block Administrative Centre, Kitam, South Sikkim
3. Munal Club Community Centre, Kitam, South Sikkim
4. Kitam Bird Sanctuary, South Sikkim

Tools/ Study Materials Used:

1. Comprehensive GSDP Course training manual in the form of booklet consisting of 148 pages.
2. Forest fire fighting tools, equipment, kit bag, uniform etc.



Evaluation of Trainees: Candidates were continuously evaluated on daily basis and viva-voce was held as a part of evaluation exercise. (Pictures below: Monitoring and Evaluation by Joint Director Mrs Kusum Gurung and Theoretical lessons)



GREEN SKILL DEVELOPMENT PROGRAMME

On “Forest Fire Management” (NSQF-5, 300 Hrs)

February 8 - March 19, 2021

Sikkim ENVIS Hub, Forest and Environment Department

DAY-WISE PROGRAMME SCHEDULE

Chief Collaborating Partner: Territorial Division, Forest and Environment Department, Government of Sikkim

Circles/ Divisions for Subject Experts: SBB, Environment & Soil Conservation, Working Plan, Survey & Demarcation, Wildlife, GIS Cell

| DATE | VENUE | PROGRAMME |
|--------------------------|--|---|
| 07/02/2021 | Trainees arrive at Gangtok | |
| 08/02/2020 | Forest Conference Hall, Deorali, Gangtok | 11.00 AM – 12.30 PM: Inaugural session 01.30 – 4.30 PM: Introduction / Basic orientation; Biodiversity Conservation and Climate Change - Opportunities for Green Skill Development; Group Discussion, Day Summarisation and Way Forward |
| 09/02/2021 | Gangtok, East Sikkim | 11.00AM- 01.00 PM Introduction of Forest/ Forest Cover and Socio Economic Significance of the Forests, Types of Forest Fire /Forest degradation and its Impact on Ecosystem Forest Ecology Forest Fire – The Global/ Indian/ State Scenario, State specific Forest Fire Management |
| 10/02/2021 | Candidates travel to South Sikkim at Training site | |
| 11/02/2021 to 18/03/2021 | BAC, Kitam, South Sikkim premises | Theory & Practical – Forest Fire Management including Cleaner Production and Waste Minimization |
| 19/03/2021 | Kitam Community Centre, South Sikkim | Valedictory |














Photographs












Training activity involved the participants to prepare compost from sal leaves using cow dung and using organic waste decomposer; all male participants actively participated in preparing the compost pit and the female participants collected the sal leaves. Two number of compost pit of size 10' X 5' each was prepared at Salghari and Sumbuk. The natural manure is expected in two months. The manure will be marketed by the candidates.

List of GSDP Participants for the Certificate course "Forest Fire Management" 2020-21

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | AADHAR NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|----------------------|--------|----------|---------------|--------------|------------|--------------|--------------------------|---|---|
| 1 | Prem Kumar Pradhan | M | OBC | 14/08/2002 | PREM14082002 | 7407562539 | 484247419849 | Lower Kitam South Sikkim |  | Working as Fire watcher under Lower Kitam EDC |
| 2 | Avishek Pradhan | M | OBC | 09-08-2001 | AVIS08092001 | 7432013298 | 493280100012 | Lower Kitam South Sikkim |  | Working as Fire watcher under Lower Kitam EDC |
| 3 | Dhan Bahadur Pradhan | M | OBC | 01-07-1976 | DHAN07011976 | 9474529279 | 678669192673 | Lower Kitam South Sikkim |  | Working as Fire watcher under Lower Kitam EDC |
| 4 | Shyam Kumar Subba | M | ST | 05-10-1986 | SHYA01051986 | 9647781832 | 941840401304 | Lower Kitam South Sikkim |  | Working as Fire watcher upper Lower Kitam EDC |
| 5 | Meena Lakandri | F | SC | 01-08-1976 | MEEN08011976 | 9593272728 | 669948826669 | Sumbuk S. Sikkim |  | Working as Fire watcher under Sumbuk JFMC |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | AADHAR NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-------------------|--------|----------|---------------|--------------|------------|--------------|--------------------------|---|---|
| 6 | Robin Darjee | M | SC | 09-07-1979 | ROBI07091979 | 8145085408 | 400622781891 | Lower Mikhola S. Sikkim |  | Working as Fire watcher under Lower Mikhola EDC |
| 7 | Nikey Darjee | M | SC | 22/11/2001 | NIKE22112001 | 8116894863 | 974445424391 | Lower Mikhola S. Sikkim |  | Working as Fire watcher under Lower Mikhola EDC |
| 8 | Subash Mangar | M | OBC | 07-10-1981 | SUBA10071981 | 9735978838 | 708345432766 | Upper Kitam South Sikkim |  | Working as Fire watcher under Upper Kitam JFMC |
| 9 | Sagar Bhujel | M | OBC | 07-05-2000 | SAGE05072000 | 9593223704 | 812873029733 | Upper Kitam South Sikkim |  | Working as Fire watcher under Upper Kitam JFMC |
| 10 | Ram Chettri | M | OBC | 08-04-1991 | RAM 04081991 | 8436141764 | 489436827701 | Lower Kitam S. Sikkim |  | Working as Fire watcher under Lower Kitam JFMC |
| 11 | Dupden Bhutia | M | ST | 13/09/1995 | DUPD13091995 | 7719314929 | 983818789939 | Pabong S. Sikkim |  | Working as Environment Assistant at Territorial South |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | AADHAR NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|----------------------|--------|----------|---------------|--------------|------------|--------------|----------------------------|---|---|
| 12 | Abishek Thapa | M | OBC | 24/10/1996 | ABIS24101996 | 7679036154 | 268588780234 | Upper Mikhola S. Sikkim |  | Working as Environment Assistant at Territorial South |
| 13 | Pemba Chogyal Sherpa | M | ST | 01-12-1993 | PEMB12011993 | 9734874261 | 514476034787 | Jaubari S. Sikkim |  | Working as Environment Assistant at Territorial South |
| 14 | Amber Rai | M | OBC | 08-09-1993 | AMBE09081993 | 8436240591 | 535686247820 | Kamcheybung S. Sikkim |  | Working as Environment Assistant at Territorial South |
| 15 | Purna Rana Manger | M | OBC | 03.06.1971 | PURN03061971 | 7584938895 | 649149664700 | Lower Kitam S. Sikkim |  | Working as Environment Assistant at Territorial South |
| 16 | Bimla Limboo | F | ST | 13/02/1993 | BIML12021993 | 8159869910 | 428598404807 | Lower Salleybung S. Sikkim |  | Working as Environment Assistant at Territorial South |
| 17 | Traza Rai | F | OBC | 05-03-1996 | TREZ03051996 | 6297556771 | 709174331538 | Upper Kamrang S. Sikkim |  | Working as Environment Assistant at Territorial South |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | AADHAR NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING |
|----|-------------------|--------|----------|---------------|--------------|------------|--------------|-----------------------------|---|---|
| 18 | Mohan Rai | M | OBC | 15/07/1991 | MOHA15071991 | 8918829249 | 954780416104 | Pakjer South Sikkim |  | Working as Environment Assistant at Territorial South |
| 19 | Yougen Chettri | M | OBC | 14-07-2000 | YOUG14072000 | 7407587737 | 240980737601 | Upper Assangthang, S/Sikkim |  | Unemployed |
| 20 | Kabita Tamang | F | ST | 10.02.1980 | KABI10021980 | 8392002991 | 477502598106 | Enchey Gumpa, E/Sikkim |  | Working as Environment at E&SC East |

4. Implementation of GSDP Course : Sustain and Enhance Technical Knowledge in Solar Energy Systems 2020-21



Sikkim ENVIS Hub under the aegis of the Ministry of Environment, Forest and Climate Change, Government of India hosted at Forest and Environment Department, Government of Sikkim successfully implemented the Green Skill Development Programme 2020-21 on “Sustain and Enhance Technical Knowledge in Solar Energy Systems”, a certificate course with National Skill Qualification Framework (NSQF) level 5 of 240 hours duration for 20 candidates selected from amongst 28 applicants across the State.

A month-long training programme w.e.f February 11 to March 6, 2021 was organized at Gangtok, East Sikkim with theoretical and field based hands-on exercises to develop green skilled workers duly amalgamating scientific and modern approach for development of solar energy systems and its maintenance for harnessing green skills for capacity building for employment in solar energy sector which is perceived as trending energy solutions for climate action.

The course meticulously covered solar energy concepts, basic electrical principles and their usage, solar PV modules, practical knowledge of types, sizes and specifications of modules/panels and their handling, functioning of solar photo voltaic power plant both off-grid and on-grid, solar water heater or solar geysers and its components. The training programme aimed to bridge the gap between theoretical learning and implementation of knowledge with requisite technical expertise for taking on detailed Solar PV plant designing, installation and maintenance. The course aimed to promote entrepreneurship and served as base for livelihood development.

Total 20 candidates were enrolled for this GSDP course. Sikkim ENVIS Hub collaborated with Sikkim Renewable Energy Development Agency (SREDA), an autonomous government body of the State Power and Energy Department as a chief collaborator and employee agency. The core part of the training was conducted by two experts from Global Sustainable Energy Solution (GSES), New Delhi with other subject experts from Sikkim Manipal Institute of Technology (SMIT) and National Institute of Electronics & Information Technology (NEILIT) Gangtok.



Group photo of GSDP trainees (Solar Energy Systems and Beekeeping) along with Experts and ENVIS team during the combined theory class - Basic Orientation on subject matter

| GSDP Course | Eligibility criteria / Min. Age of candidate | No. of candidates per batch | Duration of the course | Course Date | No. of Candidates Employed/ Self-Employed post training |
|---|--|----------------------------------|---------------------------|------------------------------|---|
| Sustain and Enhance Technical Knowledge in Solar Energy Systems | Class X / School Dropout 18 years and above | 20 Candidates (one batch) | 240 hrs, Up to 36 days | February 11 to March 6, 2021 | 11 candidates are employed in power department/ SREDA as lineman/ meter reader with average salary of Rs 9000 per month. Remaining 9 candidates are continuously guided, supported and tracked. |



Orientation classes were conducted by two GSDP trainees of 2019-20 batch (now working as Jr. Engineer in SREDA) Shri Nor Tshering Lepcha and Shri Rakesh Barailly

Resource Persons engaged for ‘Solar Energy Systems’ GSDP course 2020-21:

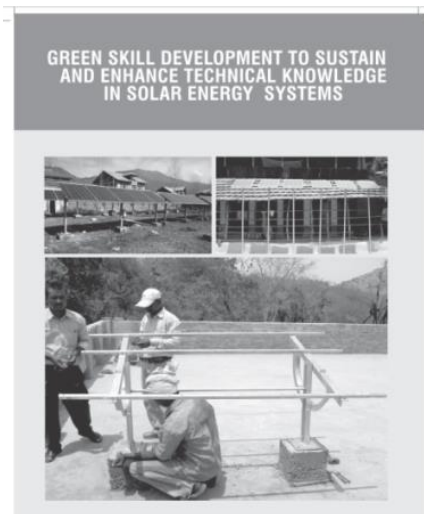
1. Dr. Bharat Kumar Pradhan, Scientific Associate, State Biodiversity Board
2. Dr. Roshan Pradhan, Asst. Professor, SMIT, Makhitar, East Sikkim
3. Shri Nor Tshering Lepcha, Jr. Engineer, SREDA (GSDP trainee 2019-20 batch)
4. Shri Rakesh Baraily, Jr. Engineer, SREDA (GSDP trainee 2019-20 batch)
5. Shri Khagendra Sharma, Scientist C, NEILIT Gangtok
6. Shri Pranab Nath, Global Sustainable Energy Solution, New Delhi
7. Shri Ashutosh Tripathi, Global Sustainable Energy Solution, New Delhi

Training Centres/ Hubs Infrastructure used for Training:

1. SPCB Conference Hall, (Orientation classes)
2. Gangtok Forest Conference Hall, Gangtok (Theoretical)
3. Solar PV on-grid plant, Forest Secretariat ‘D’ Block
4. Solar geyser plant, Govt. Palzor Namgyal Girls Sr. Secondary School
5. Solar 1kw on-grid installation site, Forest Colony, Gangtok

Tools/ Study Materials Used:

1. Comprehensive GSDP Course training manual in the form of booklet consisting of 225 pages.
2. Solar PV tool kit set, equipment, kit bag, uniform etc.
3. Solar PV 1 KW off grid plant



Evaluation of Trainees: Candidates were continuously evaluated based on written assignments and practical understanding through feedback and viva. Final assessment of candidates was conducted through written exams. The cumulative marks obtained was derived and candidates scoring 80% above were given solar diya (15 nos each). All other candidates scored 60% and above and hence were also given diya (10 nos each)

SIKKIM STATE ENVIS HUB
Forest and Environment Department, Government of Sikkim
Green Skill Development Programme (GSDP) 2020-21
Sustain and Enhance Technical Knowledge in Solar Energy System (NSQF-5, 240Hrs)
11 February - 06 March 2021
ASSESSMENT - FINAL SHEET

| SN | Name of candidate | Unique ID | Gender | Category | Date of birth | Mobile no. | Assignment (30) | Practical (30) | Exam (40) | Total (100) |
|----|---------------------|--------------|--------|----------|---------------|------------|-----------------|----------------|-----------|-------------|
| 1 | Aishwarya Sharma | AISH05021995 | Female | OBC | 05.02.1995 | 9647851545 | 26 | 27 | 38 | 91 |
| 2 | Kalpana Chhetri | KALP20051990 | Female | OBC | 20.05.1990 | 8348385690 | 30 | 29 | 30 | 89 |
| 3 | Kunal Chhetri | KUNA05021993 | Male | OBC | 05.02.1993 | 6297516954 | 27 | 29 | 33 | 88 |
| 4 | Tek Maya Darjee | TEK_22041994 | Female | SC | 22.04.1994 | 9593781215 | 26 | 27 | 33 | 86 |
| 5 | Lachuman Gurung | LACH25081992 | Male | OBC | 25.08.1992 | 7076974560 | 29 | 24 | 32 | 85 |
| 6 | Karma Palzor Bhutia | KARM21031996 | Male | ST | 21.03.1996 | 7908750668 | 24 | 27 | 32 | 83 |
| 7 | Ghanashayam Pradhan | GHAN10121986 | Male | OBC | 10.12.1986 | 9609871207 | 24 | 29 | 28 | 81 |
| 8 | Thomas Thapa | THOM17101993 | Male | OBC | 17.10.1993 | 8158096761 | 24 | 24 | 29 | 77 |
| 9 | Krishna Pradhan | KRIS15111995 | Male | OBC | 15.11.1995 | 6294706343 | 29 | 24 | 24 | 77 |
| 10 | Sunita Gurung | SUNI07071987 | Female | OBC | 07.07.1987 | 7384639184 | 29 | 24 | 24 | 77 |
| 11 | Menuka Devi Sharma | MENU24091992 | Female | OBC | 27.09.1992 | 9735927934 | 27 | 24 | 25 | 76 |
| 12 | Manjita Dhakal | MANJ04051998 | Female | OBC | 04.05.1998 | 7478384808 | 29 | 24 | 23 | 75 |
| 13 | Anjana Nepal | ANJA23091996 | Female | OBC | 23.09.1996 | 8388837926 | 26 | 24 | 23 | 72 |
| 14 | Kalpana Chhetri | KALP11011987 | Female | OBC | 1/10/1987 | 8158778506 | 26 | 24 | 21 | 70 |
| 15 | Nekita Pradhan | NIKI26081997 | Female | OBC | 26.08.1997 | 9547119243 | 24 | 24 | 21 | 69 |
| 16 | Dipti Cintury | DIPT20111997 | Female | SC | 30.11.1997 | 7550872919 | 24 | 24 | 21 | 69 |
| 17 | Sumitra Bhutia | SUMI21041982 | Female | ST | 4/21/1982 | 9733728585 | 24 | 27 | 17 | 68 |
| 18 | Sarda Sewa | SARD13121994 | Female | SC | 13.12.1994 | 7029368264 | 24 | 24 | 20 | 68 |
| 19 | Rupen Darjee | RUPE28011994 | Male | SC | 28.01.1994 | 7478703024 | 24 | 24 | 18 | 66 |
| 20 | Prabin Poudyal | PRAB10041990 | Male | OBC | 10.04.1990 | 7501205782 | 0 | 0 | 0 | 0 |





Government of Sikkim
Sikkim State ENVIS Hub
Forest and Environment Department
Deorali, Gangtok 737102

03592-280381
Fax: 03592-281778
Email: sk@envis.nic.in
Web URL: www.sikenvis.nic.in
SIKKIM STATE ENVIS HUB
Environmental Information System
On Status of Environment & Related Issues



GREEN SKILL DEVELOPMENT PROGRAMME (GSDP) 2020-21

COURSE

“SUSTAIN AND ENHANCE TECHNICAL KNOWLEDGE IN SOLAR ENERGY SYSTEMS”

| | | | |
|----------------------|------------|--------------|-----|
| Date of Assignment : | 13/02/2021 | Full Marks : | 500 |
| To be Submitted on : | 22/02/2021 | Weightage : | 30% |

ASSIGNMENT #1

All Questions are Compulsory and carry 100 marks each.

1. In not more than 200 words explain What is “Renewal Energy” along with its types.
2. In not more than 200 words explain Why do we need Renewal Energy?
3. What are the advantages and disadvantages of Solar Energy and its applications?
4. Describe the usage of Pyramometer, Pyrheliometer and Sunshine Recorder.
5. What is “carbon footprint” and Explain in not more than 100 words how does Solar affect our carbon footprint?

Please Note:

- Assignment should be submitted on 22nd February 2021 by 11 AM to the concerned officer at the training venue.
- All Candidates should mention their name and mobile number in the front page of the assignment.
- Assignment should be submitted in plain A4 sized paper preferably.

Success Indicator: Trainees successfully installed 1KW Solar PV off grid plant at Forest Colony Gangtok. Trainees were given opportunities to explore marketing enterprises in Solar products including site design, installation, operation and maintenance. Out of 20 trainees, 11 candidates (as on 31-Mar-2021) are employed in power department/ SREDA as lineman/ meter reader with average salary of Rs 9000 per month. Remaining 9 candidates are continuously guided, supported and tracked.



Solar street lighting at Forest colony near GRO office was successfully done through installation of 1 Kw off-grid Solar PV plant at Forest Colony by the GSDP trainees in coordination with Sikkim ENVIS Hub, Forest and environment Department. Once a dark corridor on way to forest Colony is now lit up by solar lights. The solar plant now lights up 5 nos of street lamps of 30w LED each.



GREEN SKILL DEVELOPMENT PROGRAMME
On “Sustain and Enhance Technical Knowledge in Solar Energy Systems” (NSQF-5, 240 Hrs)
February 11 – March 6, 2021
Sikkim ENVIS Hub, Forest and Environment Department

DAY-WISE PROGRAMME SCHEDULE

Chief Collaborating Partner: SREDA, Power and Energy Department, Government of Sikkim

Co-Partner Agencies for Subject Experts: Global Sustainable Energy Solution (GSES), New Delhi, SMIT, NIELIT Gangtok, State Biodiversity Board.

| DATE | VENUE | PROGRAMME |
|--------------------------------|---|---|
| 10/02/2021 | Out stationed trainees to arrive at Deorali, Gangtok by 5 PM | |
| 11/02/2021 | Forest Conference Hall, Deorali, Gangtok | 11.00 AM – 12.30 PM: Inaugural session 01.30 – 4.30 PM: Introduction to Renewable Energy and Solar Energy – Sikkim Context – SREDA |
| 12/02/2021 | Forest Conference Hall, Deorali, Gangtok | 11.00AM- 01.00 PM Introduction / Basic orientation; Biodiversity Conservation and Climate Change - Opportunities for Green Skill Development; Group Discussion, Day Summarisation and Way Forward 2.00PM – 4.00 PM Cleaner Production and Waste Minimization/ E-Waste Management - NIELIT, Gangtok |
| 13/02/2021 | Forest Conference Hall, Deorali, Gangtok | 11.00AM- 04.00 PM Solar Energy Systems and Climate Change - SMIT |
| 14/02/2021 | Candidates return to their stations | |
| 15/02/2021 to 20/02/2021 | Venue to be decided | Installation, testing and examination of 1 KW off grid solar PV plant (Practical/ Assignment) |
| 21/02/2021 | Out stationed trainees to arrive at Deorali, Gangtok by 5 PM | |
| 22/02/2021 to 06/03/2021 | Forest Conference Hall, and Forest Secretariat D Block Solar Off-Grid Station, Deorali, Gangtok | Theory & Practical – System Design, Installation, Operation & Maintenance of Solar Photovoltaic Systems – GSES, New Delhi Enterprise Management and Marketing, SREDA Valedictory |



Session by Dr. Roshan Pradhan, Asst. professor, SMIT on Solar Energy Systems



Session by Shri Khagendra Sharma, Scientist C, NEILIT Gangtok on Cleaner Production and Waste Minimization focusing on e-Waste













Valedictory group photo- chaired by Director Shri B B Gurung and Joint Director Mrs Kusum Gurung






Training Photographs



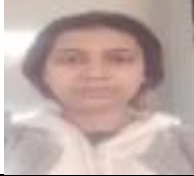




List of GSDP Participants for the Certificate course "Sustain and Enhance Technical Knowledge in Solar Energy Systems" 2020-21

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING as on 31-Mar-2021 |
|----|--------------------|--------|----------|---------------|--------------|------------|--------------------------------|---|---|
| 1 | Anjana Nepal | Female | OBC | 23.09.1996 | ANJA23091996 | 8388837926 | Middle Linge, South Sikkim |  | Waiting for employment |
| 2 | Menuka Devi Sharma | Female | OBC | 27.09.1992 | MENU24091992 | 9735927934 | Rakdong Tintek, East Sikkim |  | Waiting for employment |
| 3 | Kalpana Chhetri | Female | OBC | 20.05.1990 | KALP20051990 | 8348385690 | Panihouse, Gangtok East Sikkim |  | Waiting for employment |
| 4 | Sarda Sewa | Female | SC | 13.12.1994 | SARD13121994 | 7029368264 | Upper Parakha, East Sikkim |  | Waiting for employment |
| 5 | Dipti Century | Female | SC | 30.11.1997 | DIPT20111997 | 7550872919 | Melli Kerabari, South Sikkim |  | Waiting for employment |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING as on 31-Mar-2021 |
|----|-------------------|--------|----------|---------------|--------------|------------|---------------------------------------|---|--|
| 6 | Rupen Darjee | Male | SC | 28.01.1994 | RUPE28011994 | 7478703024 | Reshi Bazar, West Sikkim |  | Working as Lineman in Power Department at Reshi, West Sikkim. |
| 7 | Krishna Pradhan | Male | OBC | 15.11.1995 | KRIS15111995 | 6294706343 | Reshi Bazar, West Sikkim |  | Waiting for employment |
| 8 | Nikita Pradhan | Female | OBC | 26.08.1997 | NIKI26081997 | 9547119243 | Melli Dara Paiyong |  | Waiting for employment |
| 9 | Kunal Chettri | Male | OBC | 05.02.1993 | KUNA05021993 | 6297516954 | Daragaon MW ICAR, Road Tadong |  | Waiting for employment |
| 10 | Sunita Gurung | Female | OBC | 07.07.1987 | SUNI07071987 | 7384639184 | Dikling Pacheykhani East Sikkim |  | Working as Meter reader in Power Department at Pakyong, East Sikkim. |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING as on 31-Mar-2021 |
|----|---------------------|--------|----------|---------------|--------------|------------|-----------------------------------|---|---|
| 11 | Karma Palzor Bhutia | Male | ST | 21.03.1996 | KARM21031996 | 7908750668 | Middle Lingding, East Sikkim |  | Working as Junior Engineer in Power Department at Pakyong, East Sikkim. |
| 12 | Prabin Poudyal | Male | OBC | 10.04.1990 | PRAB10041990 | 7501205782 | Pakyong East Sikkim |  | Working as Lineman in Power Department at Pakyong, East Sikkim. |
| 13 | Tek Maya Darjee | Female | SC | 22.04.1994 | TEK_22041994 | 9593781215 | Lower Burtuk, Raigaon East Sikkim |  | Working as Junior Engineer in Power Department at East Sikkim. |
| 14 | Lachuman Gurung | Male | OBC | 25.08.1992 | LACH25081992 | 7076974560 | Dikling Pacheykhani East Sikkim |  | Working as Lineman in Power Department at Pakyong, East Sikkim. |
| 15 | Manjita Dhakal | Female | OBC | 04.05.1998 | MANJ04051998 | 7478384808 | Mamring, East Sikkim |  | Working as Meter reader in Power Department at Pakyong East Sikkim. |

| SN | NAME OF CANDIDATE | GENDER | CATEGORY | DATE OF BIRTH | UNIQUE ID | MOBILE NO. | ADDRESS | PASS PHOTO | STATUS AFTER TRAINING as on 31-Mar-2021 |
|----|---------------------|--------|----------|---------------|--------------|------------|---|---|--|
| 16 | Thomas Thapa | Male | OBC | 17.10.1993 | THOM17101993 | 8158096761 | Lingtam East Sikkim |  | Working as Lineman in Power Department at Lingtam, East Sikkim. |
| 17 | Sumitra Bhutia | Female | ST | 21-04-1982 | SUMI21041982 | 9733728585 | Pakyong East Sikkim |  | Working as Meter reader in Power Department at Pakyong, East Sikkim. |
| 18 | Kalpana Chhetri | Fmale | OBC | 10-01-1987 | KALP11011987 | 8158778506 | Pakyong East Sikkim |  | Working as Meter reader in Power Department at Pakyong, East Sikkim. |
| 19 | Ghanashayam Pradhan | Male | OBC | 10.12.1986 | GHAN10121986 | 9609871207 | Reshi Bazar, West Sikkim |  | Waiting for employment |
| 20 | Aishwarya Sharma | Female | OBC | 05.02.1995 | AISH05021995 | 9647851545 | Neopani Gaon, Rawtey Rumtek East Sikkim |  | Working as Consultant in Power Department at East Sikkim. |

SIKKIM ENVIS HUB TEAM



From Left: Mr Laxuman Darnal, Information Officer; Ms Kusum Gurung, Joint Director; Mr B B Gurung, Director; Ms Renu Gurung, IT Officer; Mr. Rajen Pradhan, Sr Programme Officer



Third From Left:
Ms Tulsha Gurung, Data Entry Operator;

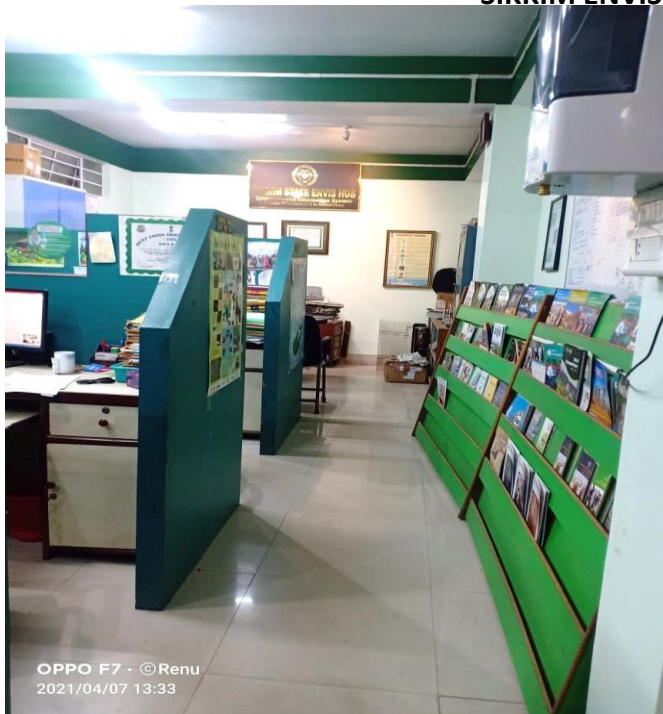
Sikkim ENVIS Hub:

1. Mr. B. B. Gurung IFS, Director cum Coordinator
2. Mrs. Kusum Gurung SFS, Joint Director
3. Mr. Rajen Pradhan, Sr. Programme Officer
4. Mr. Laxuman Darnal, Information Officer
5. Ms. Renu Gurung, IT Officer
6. Ms. Tulsha Gurung, Data entry Operator

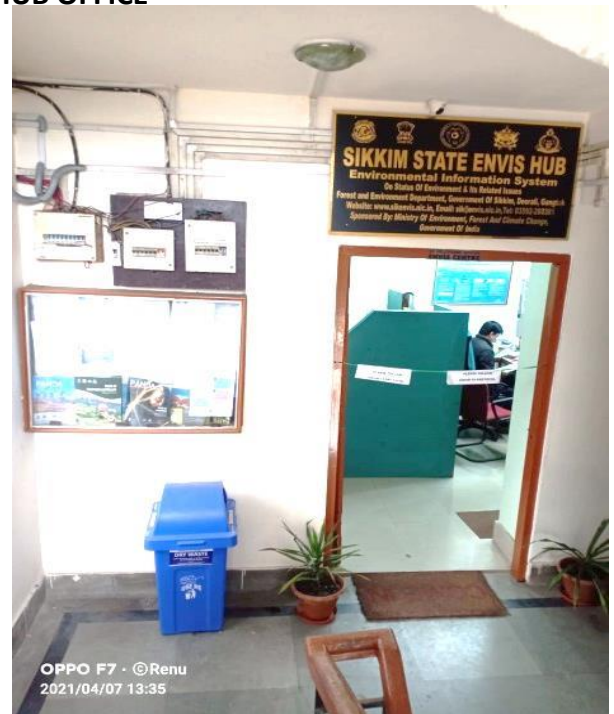
ENVIS Support Staff provided by the host organization:

1. Mr. Prem Kumar Pradhan, IT Assistant
2. Ms. Hem Maya Gautam, Office Attendant
3. Mr. Buddhabir Rai, Office Attendant
4. Mr. Agam Singh Subba, Office Attendant
5. Ms. Angelina Rai, Data Entry Operator
6. Ms. Kavita Tamang, Env. Assistant
7. Mr. Heman Subba, Env. Assistant
8. Mr. Kalyan Rai, Driver

SIKKIM ENVIS HUB OFFICE



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