

Chhattisgarh State Centre For Climate Change



Quarterly Newsletter

Volume 18 (January - March 2022)



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Message from Editor's Desk.....



Dear Readers,

I am happy to release 18th volume of quarterly newsletter.

Revision of State Action Plan on Climate Change (SAPCC) has been completed as per guideline issued by MoEF&CC, New Delhi. The Revised SAPCC has been submitted to state level steering committee for approval.

As a part of SAPCC revision, A study on climate profile of the Chhattisgarh region has been done with the help of NIT Raipur. The report has carried out the detail information of historical climate assessment and climate change projection. We have discussed some key findings of the report in this issue.

We are also happy to share the latest achievements of the NAFCC Project "Climate Adaptation in Wetlands along the Mahanadi River Catchment Area in Chhattisgarh" in this issue.

We have also discussed about the 'India State of Forest Report 2021' which was released by Minister for Environment, Forest and Climate Change. As compared to the assessment of 2019, there is an increase of 2,261 sq km in the total forest and tree cover of the country. Total carbon stock in country's forest is estimated to be 7,204 million tonnes.

We welcome your feedback and suggestions for upcoming issues of this newsletter.

(Sudhir Kumar Agrawal)

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Implementation of NAFCC project “ "Climate Adaptation in wetlands along the Mahanadi River Catchment Area in Chhattisgarh”

A pilot project "Climate Adaptation in wetlands along the Mahanadi River Catchment Area in Chhattisgarh" is being implemented by Chhattisgarh State Centre for Climate Change in 19 villages of three Forest Divisions Dhamtari, Balodabazar and Mahasamund, sponsored by the Ministry of Forest, Environment and Climate Change, Government of India, under the National Adaptation Fund of Climate Change. Development work of Approx Rs 10.43 Cr. has been completed as far. Details of some completed works under the project are given below.

Repair of Old Pond	19 No.
Staggred Contour Trench	12500 No.
Grass Seeding/ Slips plantation	566500 No.
Adaptation of plants	3150 Ha
Construction of percolation tank	103 No.
Gully Plug (Brushwood chek dam)	4070 No.
Construction of Anicut	15 No.
Construction of Stop Dam	05 No.
River Bank Plantation	62 Ha.
Health Training Camps	12 No.
Health Camps	15 No.
Drudgery reduction measures, Distribution of Smokeless Chulha and Broom	514 Family



Construction of Anicut at Dhamtari forest division



Construction of Percolation Tank at Mahasamund forest division



Study on Chhattisgarh Climate Profile has been done for SAPCC Revision

Revision of State Action Plan on Climate Change (SAPCC) has been completed as per guideline issued by MoEF&CC, New Delhi. The Revised SAPCC has been submitted to state level steering committee for approval. As a part of SAPCC revision, A study on climate profile of the Chhattisgarh region has been completed with the help of NIT Raipur. The report has carried out the detail information of historical climate assessment and climate change projection.

IMD (Indian Meteorological Division) gridded rainfall data of resolution $0.25^{\circ} \times 0.25^{\circ}$ from 1901 to 2017 and a temperature data of resolution $1.0^{\circ} \times 1.0^{\circ}$ for a period of 1951-2017 are used to analyze trend and variability of climate data considering the criticalness of Kharif season (JJAS) and Rabi season (OND). CORDEX (Coordinated Regional Climate Downscaling Experiments) data of grid- scale $0.44^{\circ} \times 0.44^{\circ}$ resolution to assess short (2021-2050) and long term (2021-2100) analysis considering RCP (Representative Concentration Pathway) 4.5 and 8.5 scenario condition. The 27 districts of Chhattisgarh were analyzed using gridded spatial information of the districts. Some key findings are given below-

Historical scenario :1901-2017

- The annual rainfall of the State is showing decreasing pattern for the period from 1972-2017. The most significant decreasing trend in rainfall observed in Surguja, Balrampur, Janjgir-champa, Surajpur, Raigarh, Korba, Raipur & Mahasamund districts with fall of minimum 3.95 mm/year to 3.05 mm/year.
- The average maximum temperature in the districts of Chhattisgarh during March-April-May (MAM) was clinched high and ranged from 36.11°C in Sukma to 38.88°C in Rajnandgaon district.
- 16 districts for more than 10 times experienced severe drought condition and the maximum frequency of drought were at Surguja (19), Raigarh (18), and Janjgir-Champa (18).

Projections - Short term :2021-2050 and Long term : 2021-2100

- Future projections based on the RCP 8.5 scenario condition in long term (2021 - 2100) show an increasing trend in only 4 districts i.e. Narayanpur, Dantewada, Bijapur, Sukma, with no significant increasing trend and the remaining 23 districts shows a decreasing trend.
- The mean rainfall for the projected duration 2021-2100 with respect to the historical period 1901-2017 is decreased in most of the districts of Chhattisgarh in both short and long term scales.
- Districts namely Korba, Bilaspur, Mungeli, Surguja, Kabirdham and Gariyaband are expected to have more frequent drought years based on the temperature projections considering the RCP scenarios.
- Warming of summer maximum temperature is projected to be in the range of 1.0°C to 1.5°C across the State in short term period where as rise of 1.5°C to 2.5°C is expected in long term RCP 4.5 scenario.



Air Quality Report 2021: A Report Released for Raipur and Korba District

State Health Resource Centre Raipur has released Air Quality Report 2021 released for Raipur and Korba District. Twelve air samples from Raipur were collected from November 2020 to May 2021. These were from: Changorabhata, Tikrapara, Mandir Hasaud, Sitlapara Bhatagaon, Acholi Urla, Utkal Nagar, Sendhwapara. Fourteen air samples were collected from Korba between March 2021 to June 2021. These were from: Rani Danraj Kuwar PHC, District Hospital, Gandhi Nagar Sirki, Khurda, Sirki- Khurda, Chainpur, Beltekri , Beltekri 2, Hardi Bazar, Dharampur Gerva, Emli Chhapar, Pankhadafai, Kanshinagar – Niharika, Checkpost- Balco, Manikpur.

Overall Findings-

- PM2.5 levels in all samples in Raipur ranged from 131.4 to 653.8 $\mu\text{g}/\text{m}^3$ and were between 2.18 and 10.88 times higher than standards prescribed by the Ministry of Environment, Forests and Climate Change (MoEFCC) of 60 $\mu\text{g}/\text{m}^3$. In Korba the levels of PM2.5 in all samples were at least 2.5 to 28.3 times above the prescribed limits of the MoEFCC limits.
- Levels of crystalline silica were seen elevated in all the samples of Raipur and Korba. Both coal ash and construction sand have high levels of crystalline silica and could be prominent contributors. Acute exposure to silica causes a fatal lung disease called Silicosis.
- In Raipur as well as in Korba nickel levels in all samples exceed the WHO annual health-based guidelines value of 0.0025 $\mu\text{g}/\text{m}^3$, which is based on the risk of cancer associated with long-term exposure to nickel.
- From Raipur out of 12 samples, six samples, shows higher levels of lead (Pb) when compared with the US EPA standard of 0.15 $\mu\text{g}/\text{m}^3$, averaged for three month. Lead is a known neurotoxin. Children are particularly vulnerable to the effects of this heavy metal.
- In Raipur levels of manganese in all the twelve samples exceed the U.S. EPA Reference Concentration for exposure to manganese (0.05 $\mu\text{g}/\text{m}^3$). In Korba, samples from 11 locations out of 14 had manganese exceeding the WHO annual health-based guidelines value of 0.15 $\mu\text{g}/\text{m}^3$.

(Source:- State Health Resource Centre, Raipur)



Gauthans of Chhattisgarh are being developed as 'Rural Industrial Park'

Gauthan established in the villages of Chhattisgarh under Suraji Gaon Yojna are emerging as a vibrant center of rural economy. Activities conducted in Gauthans have created various means of income and employment for people in rural areas.

Gauthans, which were initially established as Day-Care Centers for cattle, are now being developed as rural industrial parks, where villagers and self-help groups are being linked with small businesses that are suitable to the rural environment. Gauthan is also the focal point of the nation's first of its kind scheme Godhan Nyay Yojana, under which cow dung is procured from cattle ranchers, dung collectors and farmers at the rate of Rs.2 per kg. Dung so procured is utilized for production of vermicompost and super compost. Besides, many activities such as community garden, mushroom production, fish farming, goat rearing, poultry farming, animal husbandry, and the activity of manufacturing dung lamp, vases and incense sticks are also being conducted by the self-help groups in these Gauthans.

Under Godhan Nyay Yojana, 63.89 lakh quintals of cow dung has been procured and in return, Rs 127 crore 79 lakh crore has been paid to the dung sellers. The amount paid under the scheme to more than 97 thousand landless villagers, including livestock owners, farmers, women members of self-help groups, dairy farm operators, has helped them to take care of their families and their needs during the challenging times of COVID crisis.

(Source:- CG Jansampark)



Chhindiya Gram Panchayat of Surajpur district bags national award for better water management

Chhindiya Gram Panchayat of Surajpur district has bagged national award for better water conservation and management. Chhindiya has received second prize in the 'Best Gram Panchayat' category under the 3rd National Water Awards given by Union Ministry of Jal Shakti.

Chief Minister Mr. Bhupesh Baghel has congratulated officials concerned and villagers of Chhindiya Gram Panchayat on receiving the National Water Award. The award is presented annually by the Union Ministry of Jal Shakti. Chhindiya has been awarded as the Best Gram Panchayat for its excellent work in the field of water conservation and management.

The main objective of the award is to encourage the conservation and promotion of water resources along with making the general public aware about minimal and efficient water usage. This aim is to motivate all the concerned to take steps towards water management and adopt better technologies in water use.

(Source:- CG Jansampark)



Do You Know?



It is truly amazing how migratory birds can navigate with pin-point accuracy. Exactly how migrating birds find their flyways is not fully understood. It has been shown that they are able to orientate by the sun during the day, by the star at night, and by the geomagnetic field at any time. Some species can even detect polarized light, which many migrating birds may use for navigation at night.

(Source:- MoEF&CC)



Forest Survey report 2021 released; increase of 2,261 sq km in the total forest and tree cover of the country in last two years.

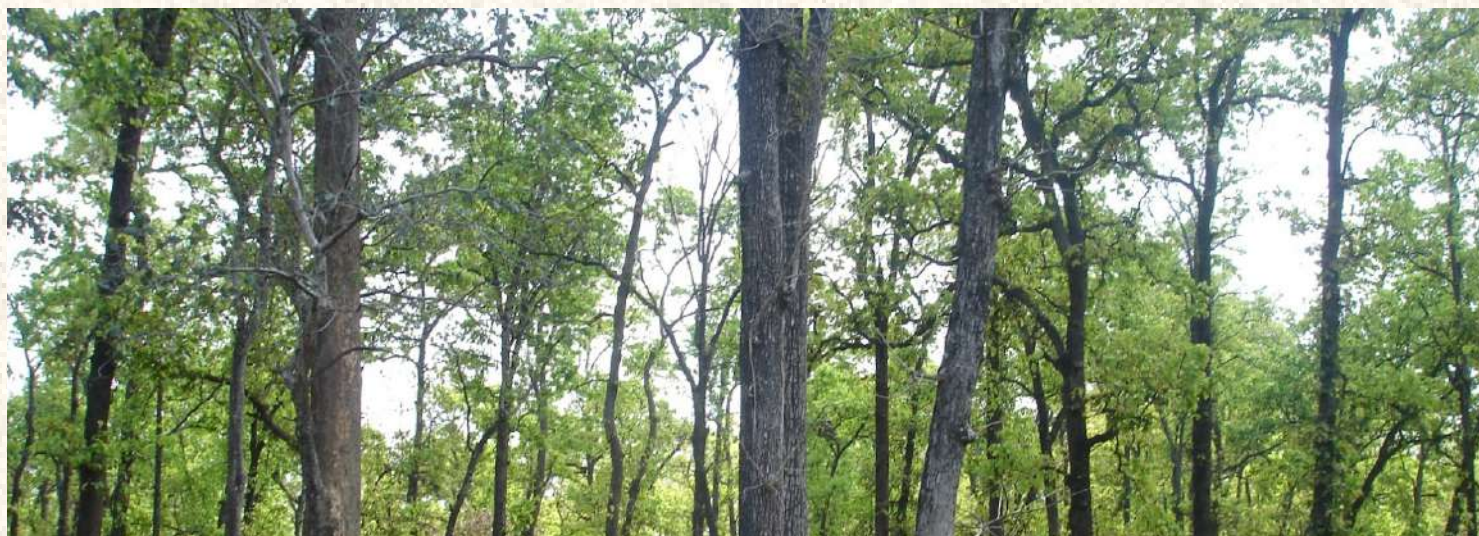
Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav, released the 'India State of Forest Report 2021' prepared by the Forest Survey of India (FSI) on 13/01/2022. Sharing the findings, the Minister informed that the total forest and tree cover of the country is 80.9 million hectare which is 24.62 percent of the geographical area of the country. As compared to the assessment of 2019, there is an increase of 2,261 sq km in the total forest and tree cover of the country.

The ISFR-2021 provides information on forest cover, tree cover, mangrove cover, growing stock, carbon stock in India's forests, forest fire monitoring, forest cover in tiger reserve areas, above ground estimates of biomass using SAR data & climate change hotspots in Indian forests.

Major Findings of the ISFR 2021:-

- The total forest and tree cover of the country is 80.9 million hectare which is 24.62 percent of the geographical area of the country. As compared to the assessment of 2019, there is an increase of 2,261 sq km in the total forest and tree cover of the country. Out of this, the increase in the forest cover has been observed as 1,540 sq km and that in tree cover is 721 sq km.
- Increase in forest cover has been observed in open forest followed by very dense forest. Top three states showing increase in forest cover are Andhra Pradesh (647 sq km) followed by Telangana (632 sq km) and Odisha (537 sq km).
- Area-wise Madhya Pradesh has the largest forest cover in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra. In terms of forest cover as percentage of total geographical area, the top five States are Mizoram (84.53%), Arunachal Pradesh (79.33%), Meghalaya (76.00%), Manipur (74.34%) and Nagaland (73.90%).
- Total carbon stock in country's forest is estimated to be 7,204 million tonnes and there an increase of 79.4 million tonnes in the carbon stock of country as compared to the last assessment of 2019. The annual increase in the carbon stock is 39.7 million tonnes.

(Source - Press Information Bureau, Government of India)



वनो से उत्सर्जित एवं अवशोषित होने वाली गैसों का करेगा अध्ययन

बताएगा गैसों का पर्यावरणीय प्रभाव, भविष्य की योजनाएं बनाने में मिलेगी मदद

रघुनाथ नगर जंगल में लगा छग का पहला कार्बन फ्लाक्स टावर

अधिकांश वनो से उत्सर्जित होने वाली गैसों का अध्ययन कर पढ़ने वाले प्रभाव का अध्ययन किया जाएगा। इस महत्वपूर्ण कार्य के लिए वन

अनुसंधान एवं शिक्षा परिषद देहादुन ने लखनऊ व छग जंगल का पहला कार्बन फ्लाक्स टावर स्थापित करने का फैसला किया है।

प्रदूषण कम करने की योजना बनाने का पहला कार्बन फ्लाक्स टावर

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छग जंगल में

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3 साल में 83 लाख पौधे रोपे गए

हरियाली योजना

नवभारत न्यूस | रायपुर

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वन एवं जलवायु परिवर्तन विभाग द्वारा संचालित 'हरियाली प्रसार' योजना के अंतर्गत तीन वर्षों वर्षा ऋतु 2019, 2020 तथा 2021 में 83 लाख 31 हजार पौधे रोपे गए। इससे 7 हजार 400 हेक्टेयर रकबा हरियाली से आच्छादित हुआ है। इसमें हितग्राहियों तथा कृषकों की ओर से पौधों की बढ़ती मांग को देखते हुए वर्ष 2022-23 में इस योजना के अंतर्गत कृषकों की भूमि पर रोपण के लिए बजट में 17 करोड़ 58 लाख रुपए की राशि का प्रावधान किया गया है। वन एवं जलवायु परिवर्तन मंत्री मोहम्मद अकबर ने बताया कि



'हरियाली प्रसार' योजना पर्यावरण सुधार सहित पड़त भूमि के विकास तथा लोगों की आय में वृद्धि के लिए महत्वपूर्ण है। हरियाली प्रसार योजना में कृषकों की स्वयं की भूमि पर कृषि वानिकी को प्रोत्साहित करने और हरियाली को बढ़ाए जाने के लिए विभाग द्वारा प्रतिहितग्राही 50 से 5 हजार तक न केवल पौधे उपलब्ध कराए जाते हैं, बल्कि उसके देखरेख के लिए अनुदान के रूप में आंशिक राशि भी उपलब्ध कराई जाती है।

वनो से उत्सर्जित होने वाली गैसों का अध्ययन कर पढ़ने वाले प्रभाव का अध्ययन किया जाएगा। इस महत्वपूर्ण कार्य के लिए वन

सूखे नरवा को दे दिया मिनी डैम का आकार तीन हजार हेक्टेयर थी क्षमता, अब 16 हजार

जून आखिर खोज ही लिया पानी

किसान सुखे: अब ठहरने लगा पानी, 200 किसानों को मिल रही सिंचाई सुविधा

वनमंडल- गरियाबंद
वन परिक्षेत्र - पाण्डुका
टेडगी नाला पर बना अर्द्ध डैम (मिट्टी का बांध)

इससे 200 किसानों को मिली सिंचाई की सुविधा

अनुसंधान एवं शिक्षा परिषद देहादुन ने लखनऊ व छग जंगल का पहला कार्बन फ्लाक्स टावर स्थापित करने का फैसला किया है।

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वनांचल में 30 व मैदानी क्षेत्रों में सात सेमी बढ़ा जलस्तर

रायपुर (राज्य न्यूस)। प्रदेश सरकार की नरवा विकास योजना का सकारात्मक परिणाम दिखने लगा है। मुख्यमंत्री भूपेश बघेल ने प्रदेशव्यापी भेंट मुलाकात कार्यक्रम के दौरान लोगों से मिली जानकारी (फीडबैक) के आधार पर बताया कि इस योजना से प्रदेश के वनांचल में 30 और मैदानी क्षेत्रों में लगभग सात सेंटीमीटर तक भूजल स्तर बढ़ा है। शुक्रवार को आयोजित एक वर्चुअल कार्यक्रम में बघेल ने इस योजना के अंतर्गत किए जा रहे हैं भूजल संवर्धन और संरक्षण के कार्यों की गुणवत्ता से कोई समझौता नहीं करने के निर्देश दिए।



प्रतीकात्मक चित्र

मुख्यमंत्री ने नरवा योजना के तहत 300 करोड़ रुपये के कार्यों का किया शुभारंभ

पांच प्रयोगशालाओं का लोकार्पण

कार्यक्रम के दौरान मुख्यमंत्री ने पांच वनीपज उत्पादी की गुणवत्ता परीक्षण प्रयोगशालाओं का लोकार्पण किया। ये प्रयोगशालाएं रायपुर, दिलासपुर, कांकर, जगदलपुर और सरगुजा वनवृत्त में स्थापित की गई हैं। इन प्रयोगशालाओं में वनीपज की गुणवत्ता परखी जाएगी।

Editorial Team

- Mr. Sudhir Kumar Agrawal (Chief Editor)
- Dr. Anil Kumar Shrivastava
- Mr. Abhinav Agrahari
- Mr. Rajesh Toppo



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