

Online Resources on Environmental Sciences - An Interdisciplinary Bioinformatics Perspective

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Abstract - Bioinformatics is a field of 21st Century, interdisciplinary in nature has the capacity to derive a permanent solution for Environmental Sustainability through scientific research. Bioinformatics includes creation, modification, storage, maintenance, up gradation of databases, software, tools, applications, servers, workbenches, platforms, workgroups, portals, libraries of biological data for making important data available to the scientific community. Bioinformatics deals with Information technology interfaces such as databases as collection of data, structure prediction, sequence alignment, phylogenetics and many more techniques can be used for finding solutions of environmental problems. Online resources particularly databases relating to the environment helps not only to the scientific community but also to general public who so ever irrespective of user's qualification, profession wants to do something for the environment or society.

Keywords - Environmental Sustainability, Bioinformatics, Online Resources, Database

I. INTRODUCTION

Biodiversity Information System - It is a web based biodiversity Information System mutually sponsored by Department of Biotechnology Govt. of India and Department of Space, it was meant to identify and map the potential rich biodiversity regions of India. Spatial Information was further categorized at three different levels, Satellite based, geospatially derived and geospatially referenced sample plots.

Indian Biodiversity Information System (IBIS) is a web-based, online searchable biodiversity portal, designed to present a well defined scientific information on Indian flora and fauna which is readily accessible, free and user-friendly. It gathers free data and is source of presenting the same for research and scientific community. It involves of various groups from naturalists to wildlife enthusiasts, researchers, ecologists, wildlife scientists, wildlife managers, students, government officials, photographers etc. It collects and presents valuable information about different members of animal kingdom and is an easy accessible source for people having common interest in wildlife and biodiversity.

Environmental Information System (ENVIS) an excellent source of information on Western ghats biodiversity

.It is initiative of Ministry of Environment, Forest and Climate Change Govt. of India for web enabled environmental information collection, storage, retrieval, presentation along with dissemination to the policy makers, scientific community and researchers etc.

Bombay Natural History Society (BNHS) India is conserving nature since 1883.it is a non government organization working for the conservation of nature in India. It is working primarily for the Biological Diversity based on Research, Education and Public Awareness via nature trails and camps

Birds of India It provides information about the bird biodiversity with over 1250 species of birds in India. It is meant for general public awareness and educational purpose. It provides an index page with awareness with the help of posters depicting extinct birds. It also provides an Image gallery of more than one thousand birds with latest updates and different trip reports and hotspots or birding sites details in India

IndiaAgroNet for clean, smart and profitable farming. It provides a platform for agri markets, news, classifieds, machinery, interviews, blogs, agri tech, directory, livestock, exports, horticulture agri apps, agri events etc. It also provides latest information on collaborator efforts of different agri institutions for future

Open Government Data (OGD) Animal Husbandary is a digital india initiative which deals with the district wise details of breed wise data of poultry, rabbit, dog, elephant, pig, camel, ponies, horses, buffalo, sheep and other Livestock in India.

Centre for Climate and Energy Solutions (C2ES) working together for the Environment and Economy. It is an independent nonprofit organization working for climate and economy in India.

Central Pollution Control Board (CPCB) under the Ministry of Environment and Forestry. It serves as a field formation and provides technical services to the government. It carries out the Air and Water of prevention and control of pollution Act, 1974. Water quality monitoring and national air monitoring programme in addition to control cleanliness of

streams and wells at different states of the country. It also undertakes the initiatives to distribute water testing kits to the educational institutions.

Global Land database includes Food and Agriculture Organization of the United Nations. It includes Agro-MAPS a global spatial database, AFZ agro-economical Zoning system, Problem soil database, Global soil and terrain database etc.

Indian Council for Agricultural Research (ICAR) earlier called as Imperial Council of Agricultural Research is an organization under Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India. It manages research and education with 101 institutes and 71 agricultural universities across India. It resulted into occurrence of Green Revolution and led country to increase the production of foodgrains by 5 times, horticultural crops by 9.5 times, fish by 12.5 times, milk 7.8 times and eggs 39 times since 1951 to 2014, and acknowledged the scientists globally in the world.

Databanks on Agriculture and Allied sectors under planning commission govt. of India.

Few other aspects include making of NGT and e-Green watch for saving the climate and taking positive steps towards afforestation.

CAMPA e- Green watch- Compensatory Afforestation Fund Management and Planning Authority

NGT National Green Tribunal for enforcing law in terms of environmental issues

II. CONCLUSION

Bioinformatics played a very crucial role in creation of online resources making important information accessible to the general public and scientific community and researchers as well, simplifying the role of dissemination of knowledge very well. Better quality information further paves way for advanced research opportunities and platform for further advancement. In this paper only the database resources were highlighted whereas there is further scope of many other aspects of bioinformatics for playing a crucial role in the research and development.

III. REFERENCES

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