

Digitization of collection specimens and mobilization of data through citizen science-based Bhutan Biodiversity Portal and enhancing the functions of portal.

Programme: BIFA

Project ID: BIFA5_008

Project lead organization: National Biodiversity Centre

Project implementation period: 1/7/2020 - 31/12/2021

Report approved: 9/9/2022

Narrative Final report

Executive Summary

This project aimed at digitization of herbarium specimens and making it available through the Bhutan Biodiversity Portal and GBIF, and publishing the biodiversity data from Bhutan onto GBIF. The major activities included creating awareness to public including students and foresters on biodiversity data mobilization in the country. Bhutan Biodiversity Portal is upgraded from biodiv. 2.0 to biodiv. 2.0 including the upgrade of Android App.

The team learned that digitization of specimens are vital part of biodiversity documentation and more importantly making it available to all. Digitized herbarium specimens are yet to be uploaded as the upload of the digital data lacked sufficient funds.

Team learned how to publish biodiversity data using cloud IPT onto GBIF and has publish several biodiversity checklists with occurrence datasets. In addition to the objectives, data from the Bhutan Biodiversity Statistics were published on GBIF, and a portal user manual was launched. A total of three workshops were organized along with which biodiversity data and information were collated including the collection of some primary data and specimens.

A draft biodiversity data paper is due for publication. The data paper will be published in the coming months. Awareness programs and digitization of specimens will now be ongoing tasks for the team at the centre and will explore further support to continue the activities.

Progress against milestones

Has your project completed all planned activities?: No

Rationale: Upload of digitized herbarium specimens could not be completed due to insufficient fund and time constraints. In addition, specimen feature development in the Bhutan Biodiversity Portal is taking longer than than expected. However, these activity will be an ongoing work even after the project ends and will be ultimately made available onto GBIF and the Portal.

Has your project produced all deliverables?: No

Rationale: Upload of digitized herbarium specimens could not be completed due to insufficient fund and time constraints. In addition, specimen feature development in the Bhutan Biodiversity Portal is taking longer than than expected. However, these activity will be an ongoing work even after the project ends and will be ultimately made available onto GBIF and the Portal. Data paper is in draft stage, however will be published in the coming months.

Report on Activities

Activity implementation summary

Upload of digitized herbarium specimens could not be completed due to insufficient fund and time constraints. In addition, specimen feature development in the Bhutan Biodiversity Portal is taking longer than than expected. However, these activity will be an ongoing work even after the project ends and will be ultimately made available onto GBIF and the Portal.

Biodiversity Statistics checklists are published onto GBIF. Occurrence data from the Portal are published in GBIF.

Workshops were conducted and completed.

A data paper is in draft form and will be submitted in coming months.

Mapping of species are automated in the Bhutan Biodiversity Portal. Additionally, this activity will be carried out frequently whenever new data comes in.

A Portal User Manual was developed and launched. New invertebrate specimens were also collected and deposited at the National Invertebrates Repository under NBC.

Bhutan Biodiversity Portal is upgraded from biodiv. 2.0 to biodiv. 3.0 including the upgrade of Android App.

Completed activities

Activity name: Biodiversity statistics data published in GBIF

Description: Biodiversity statistics data were published in GBIF.

Start Date - End Date: 1/8/2020 - 31/12/2021

Verification Sources: https://www.gbif.org/dataset/search?publishing_org=dcf2223a-5eae-4977-904c-ebd1819c603d

Activity name: Data paper on Bhutan's biodiversity

Description: Data paper on Bhutan's biodiversity is drafted.

Start Date - End Date: 1/1/2021 - 31/12/2021

Verification Sources: Attached

Activity name: Digitization of specimens

Description: Digitization of herbarium specimens is completed and will be uploaded after sorting the scanned photographs, onto the portal and GBIF.

Start Date - End Date: 1/8/2020 - 7/8/2021

Verification Sources: Will be shared on request.

Activity name: Portal upgradation

Description: Bhutan Biodiversity Portal upgraded from biodiv. 2.0 to biodiv. 3.0.

Start Date - End Date: 2/7/2020 - 23/11/2021

Verification Sources: <https://biodiversity.bt/>

Activity name: Bhutan Biodiversity Portal User Manual developed and published

Description: A Bhutan Biodiversity Portal User Manual was developed and launched.

Start Date - End Date: 15/7/2020 - 31/8/2021

Verification Sources: Attached.

Activity name: Occurrence data from Bhutan Biodiversity Portal published in GBIF

Description: Occurrence data from the Bhutan Biodiversity Portal was published onto GBIF.

Start Date - End Date: 15/7/2021 - 30/11/2021

Verification Sources: <https://www.gbif.org/dataset/926f3dd4-89d9-4cbd-8ed7-32fb6fcfa861>

Report on Deliverables

Production of Deliverables - Summary

More than 6000 occurrence data from the portal published in GBIF. However, more data will be continued to be published in GBIF in future.

Production of deliverables

Title: Occurrence Dataset

Type: Dataset

Status update: Published
Dataset scope: Published more than 6000 data in GBIF.}
Expected number of records: 6000
Data holder: Bhutan Biodiversity Portal: National Biodiversity Centre
Data host institution: National Biodiversity Centre
Sampling method:
% complete: 100
DOI: <https://doi.org/10.15468/wqcp7j>
Expected date of publication:

Title: Data papers

Type: Data Papers

Description: A data paper on Bhutan's biodiversity is in draft stage and will be submitted in coming months.

Sources of verification: Attached

Title: Workshops

Type: Other

Description: Workshops conducted to students and conservationists.

Sources of verification: Attached

Impact of COVID-19 pandemic on project implementation

COVID-19 pandemic has hugely affected the project and project team members. Country faced several lockdowns and travel restrictions has been enforced within the country for one and half years now. Our team members from India could not travel to Bhutan nor Bhutanese could not travel to India. One of the team member could not come back to Bhutan from Australia and has been working remotely.

Events

Portal Workshop

Dates: 2020-08-12 - 2020-08-13

Organizing institution: NBC

Country: Bhutan

Number of participants: 20

Comments: Attached

Website or sources of verification: attached report

Communications and visibility

The new features and data are made available through the Bhutan Biodiversity Portal and GBIF, and also made aware through portal facebook page.

Monitoring and evaluation

Final Evaluation

Number of observations in the portal has been increasing since the inception of this project and other awareness campaigns. Citation of the portal was also observed to be increasing.

The support and training from the GBIF immensely helped and equipped the project team members.

Best Practices and Lessons Learned

Online communication drastically improved during the COVID pandemic.

Digitization of specimens techniques are well-captured especially for the herbarium specimens.

Post Project Activity(ies)

Continue data paper submission, development of specimen feature in portal, upload digitized specimens, and continue providing new data to GBIF.

Sustainability plans

The activities on the portal will be continued with minimal funding from the government. The Centre will continuously explore support to enhance and improve data mobilization and the portal. The number of observations and species pages will be targeted to increase.

GBIF leads the Biodiversity Information Fund for Asia (BIFA), a programme funded by the Ministry of the Environment, Government of Japan. The programme provides supplementary support for activities addressing the needs of regional researchers and policymakers through mobilization and use of biodiversity data.

