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## Mobilizing Occurrence data of alien and endemic plant species of Nepal

### *Brief report of Result Sharing Meeting (22 May 2019)*

(Prepared by Bharat Babu Shrestha and Kalpana Sharma (Dhakal))

#### **Background**

The Central Department of Botany, Tribhuvan University (CDB, TU) and the Department of Plant Resources (DPR) Ministry of Forest and Environment in collaboration with Royal Botanic Garden Edinburgh (RBGE) UK are implementing a research project entitled '**Mobilizing occurrence data of alien and endemic plant species of Nepal**' with financial support from Biodiversity Information Fund for Asia (BIFA) program of the Global Biodiversity Information Facility (GBIF), Denmark. The major funding agency for BIFA program is the Ministry of the Environment of the Government of Japan. The main objective of the project is to digitize herbarium specimens of the alien and endemic plants of Nepal deposited at National Herbarium and Plant Laboratories (KATH) and Tribhuvan University Central Herbarium (TUCH), and publish occurrence data in open access GBIF publishing network.

The project team includes Prof. Mohan Siwakoti (CDBTU; Principle investigator of the project), Mr. Sanjeev Kumar Rai (Director General, DPR; Co-principle investigator), Dr. Bharat Babu Shrestha (Associate Professor, CDBTU; Project Coordinator), Dr. Suresh Kumar Ghimire (Professor, CDBTU; Plant taxonomist), Ms. Kalpana Sharma (Dhakal) (Scientific Officer, DPR; Expert) and Ms. Sajita Dhakal (Research Officer, KATH; Expert). Dr. Mark Watson and Dr. Bhaskar Adhikari are participants from RBGE. Two Research Assistants were Mr. Yagya Raj Paneru and Mr. Ganesh Dutt Joshi.

#### **Meeting objectives**

A Results Sharing Meeting of the research project was organized on May 22, 2019, Wednesday (Jestha 8, 2076 according to Nepali calendar; 3.00 – 5.30 PM) at the Central Department of Botany, Tribhuvan University, Kathmandu. The objectives of the workshop were as follows:

- 1) To inform the stakeholders about state of Nepalese biodiversity data publication in GBIF network
- 2) To share outcome and lesson learned of the BIFA funded project in Nepal on digitization of the herbarium database of alien and endemic plants of Nepal among stakeholders involved in biodiversity conservation and management

#### **Meeting activities**

The program was chaired by Prof. Ram Kailash Prasad Yadav, the Head of the Central Department of Botany, Tribhuvan University, Kathmandu. Prof. Ram Prasad Khatiwada, Dean of

the Institute of Science and Technology, Tribhuvan University was the Chief Guest of the Program.

Meeting started with the welcome speech by Prof. Sangeeta Rajbhandary of the Central Department of Botany, Tribhuvan University (CDB TU). It was followed by a presentation of Bharat Babu Shrestha (coordinator of BIFA project) on 'Mobilizing occurrence data of alien and endemic plant species of Nepal: outcomes and lessons learned'. His presentation started with the highlight of occurrence data of Nepalese biodiversity published in GBIF. According to his presentation, 1753 specimens representing 119 alien species of Nepal were digitized from the specimens deposited at TUCH. Similarly, 3515 specimens of alien species from KATH were also digitized. In addition, 30 specimens of endemic plants from TUCH and 275 specimens from KATH were digitized during the implementation of the project.

The second presentation was by Ms. Kalpana Sharma (Dhakal) (Department of Plant Resources; member of BIFA project) on 'Catalogue of herbarium specimens of endemic flowering plants of Nepal'. According to her presentation, 1930 herbarium specimens representing 313 endemic flowering plants of Nepal has been deposited in 52 herbarium institutions located in 19 countries. Royal Botanic Garden Edinburgh (E) has the highest number (449) of herbarium specimens of the Nepalese endemic plants, followed by British Museum (BM, 310). British Museum has the highest number of holotypes (135), followed by Tokyo University (TI, 58).

Technical presentations were followed by open discussion. The major topics discussed included 1) uncertainties associated with georeferencing of the collection sites when geographic coordinates were not recorded at the time of collection, 2) possible threats from illegal collections when precise locations of the occurrence of rare and threatened species is published in open access database; 3) need of collaboration between government institutions and academia in areas of biodiversity knowledge generation and capacity building; and 4) benefit of publishing occurrence data in GBIF. Senior plant taxonomists, government officials, conservation managers and Participant Node Manager of GBIF at ICIMOD participated the discussion session.

After open discussion, Mr. Sanjeev Kumar Rai, Director General of the Department of Plant Resources (DPR) and CoPI of the BIFA project put forward his remarks. He highlighted the efforts of DPR in digitizing and publishing herbarium record data. He also informed that his office (DPR) is closely working with the academia including the Central Department of Botany, Tribhuvan University (CDB TU) in biodiversity related fields including databasing and writing Flora of Nepal. He also assure that DPR will work closely with the CDB TU in future too.

In his remarks, the Chief Guest Prof. Ram Prasad Khatiwada, Dean of the Institute of Science and Technology, Tribhuvan University said that he was quite happy to see a successful collaboration between government office (DPR) and academic institution (CDB TU) in digitizing

and publishing biodiversity data. He also suggested to collaborate in other fields such as climate change so that knowledge generated by academia can be consumed by government for informed policy decision.

In this closing remarks, Prof. Ram Kailash Prasad Yadav (Head of the CDB TU and Chair of the program) re-emphasized the need of collaboration between government offices and academia for knowledge generation and capacity building in the field of biodiversity conservation. Prof. Yadav also informed that the Department will continue digitization and databasing of the herbarium specimens even after the termination of the BIFA funded project.

The meeting was followed by a group photography and refreshment.

Ms. Anju Sharma Paudel, a PhD scholar at CDB TU conducted the program.

### ***Meeting participants***

The meeting was participated by 46 people representing Government offices (Department of Plant Resources, Forest Research and Training Center, National Herbarium and Plant Laboratory, National Botanic Garden), conservation organization (National Trust for Nature Conservation NTNC, International Center for Integrated Mountain Development ICIMOD), colleges (Tri-Chandra), and the Central Department of Tribhuvan University (Botany, Zoology). Participant Node Manager of GBIF at ICIMOD (Ms. Bandana Shakya) also participated the meeting. Prof. Ram Prasad Khatiwada, Dean of the Institute of Science and Technology, Tribhuvan University was the Chief Guest of the meeting.

Table 1.Details of the participants of the meeting.

SN	Name	Designation and affiliation
1	Dr. Achyut Tiwari	Assistant Prof., Dept. of Botany, Trichandra College, Kathmandu
2	Amrit KC	National Herbarium and Plant Laboratories, Godawari, Lalitpur
3	Dr. AnjanaDevkota	Associate Prof., Central Dept. of Botany, TU, Kirtipur
4	Anju Sharma Paudel	PhD Scholar, Central Dept. of Botany, TU, Kirtipur
5	Bandana Shakya	GBIF Regional Node Moderator, ICIMOD, Dhapakhel, Lalitpur
6	Dr. Bharat Babu Shrestha	Associate Prof., Central Dept. of Botany, TU, Kirtipur
7	Prof. Bijaya Pant	Professor, Central Dept. of Botany, TU, Kirtipur
8	Dr. BuddiSagarPoudel	Deputy-Director General, Forest Research and Training Center (FRTC), Babar Mahal, Kathmandu
9	Dr. Chandra P Pokharel	Associate Prof., Central Dept. of Botany, TU, Kirtipur
10	Dr. ChitraBahadurBaniya	Associate Prof., Central Dept. of Botany, TU, Kirtipur
11	Dr. Deepak R Pant	Associate Prof., Central Dept. of Botany, TU, Kirtipur
12	Deepak Lamichhane	Chief, National Botanic Garden, Godawari, Lalitpur
13	Ganesh D Joshi	Research Assistant, BIFA project, Central Dept. of Botany, TU, Kirtipur
14	Dr. Giri P Joshi	Assistant Prof., Central Dept. of Botany, TU, Kirtipur

15	Prof. Hari D Bhattarai	Professor, Central Dept. of Botany, TU, Kirtipur
16	Dr. Hari P Aryal	Assistant Prof., Central Dept. of Botany, TU, Kirtipur
17	Dr. Hari P Sharma	Assistant Prof., Central Dept. of Zoology, TU, Kirtipur
18	Jyoti Joshi (Bhatta)	Deputy-Director General, Department of Plant Resources, Thapathali
19	Kalpana Sharma (Dhakal)	Scientific Officer, Department of Plant Resources, Thapathali
20	Dr. Keshav R Rajbhandary	Senior Taxonomist, Kathmandu
21	Prof. Krishna K Shrestha	Professor, Kathmandu
22	Dr. Lal B Thapa	Assistant Prof., Central Dept. of Botany, TU, Kirtipur
23	Mahesh Bisth	Central Dept. of Botany, TU, Kirtipur
24	Prof. Mohan P Panthi	Professor, Central Dept. of Botany, TU, Kirtipur
25	Mukti R Paudel	Assistant Professor, Central Dept. of Botany, TU, Kirtipur
26	Dr. Narayan P Ghimire	Assistant Prof., Central Dept. of Botany, TU, Kirtipur
27	Dr. NareshSubedi	Conservation Program Manager, National Trust for Nature Conservation (NTNC), Lalitpur
28	Prof. Pramod K Jha	Professor Emirates, Tribhuvan University, Kathmandu
29	Dr. PremBudha	Assistant Prof. Central Dept of Zoology, TU, Kirtipur
30	Prof. Ram KPYadav	Prof. and Head, Central Dept. of Botany, TU, Kirtipur
31	Prof. Ram P Khatiwoda	Prof. and Dean, Institute of Science and Technology, Tribhuvan University, Kathmandu
32	SajitaDhakal	National Herbarium and Plant Laboratories, Godawari, Lalitpur
33	Dr. Sanjay K Jha	Associate Prof., Central Dept. of Botany, TU, Kirtipur
34	Sanjeev K Rai	Director General, Department of Plant Resources, Thapathali
35	Dr. Srijana Joshi	International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal
36	Subhash Khatri	Chief, National Herbarium and Plant Laboratories, Godawari, Lalitpur
37	Prof. Sangeeta Rajbhandary	Professor, Central Dept of Botany, TU, Kirtipur
38	Prof. TejBahadurThapa	Professor and Head, Central Dept. of Zoology, TU, Kirtipur
39	Yagya R Paneru	Research Assistant, BIFA project, Central Dept. of Botany, TU, Kirtipur
40	TilKumari Thapa	National Herbarium and Plant Laboratory, Godawari, Lalitpur
41	PratikshyaChalise	National Herbarium and Plant Laboratory, Godawari, Lalitpur
42	BasudevPoudel	Central Department of Botany, TU, Kirtipur
43	Janak Raj Subedi	Central Department of Botany, TU, Kirtipur
44	Sita	Central Department of Botany, TU, Kirtipur
45	Radha Sharma	Central Department of Botany, TU, Kirtipur
46	Shambu Ram Bista	Central Department of Botany, TU, Kirtipur

*Some glimpses of meeting in photographs*



Participants of the meeting



Presentation by Dr. Bharat Babu Shrestha (BIFA project coordinator) (Photo: YR Paneru)





Presentation by Ms. Kalpana Sharma Dhakal (BIFA project team member) (Photo: YR Paneru)



Participants engaged in discussion (Photo: YR Paneru)



Mr. Sanjeev Kumar Rai, Director General of the Department of Plant Resources, addressing the meeting(Photo: YR Paneru)



Remarks by Chief Guest Prof Dr. Ram Prasad Khatowada, Dean, Institute of Science and Technology, Tribhuvan University(Photo: YR Paneru)





Remarks by Prof. Ram Kailash P Yadav, Chair of the Meeting and the Head of the Central Department of Botany, Tribhuvan University (Photo: YR Paneru)