



## **Cordyceps in Kurtoe and Gangzur Gewog**

[DoFPS/2/2016/342]

Ugyen Wangchuck Institute for Conservation and Environment

Department of Forests and Park Services

Ministry of Agriculture and Forests

## Executive Summary

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Upon the directives of the Department of Forests and Park Services, the Ugyen Wangchuck Institute for Conservation and Environment undertook social survey on the claim received from the communities of Kurtoe and Gangzur gewog in Lhuntse with regards to the presence of Cordyceps in the gewog. We found that, communities of both these gewogs are convinced on presence of Cordyceps in their area as they claim to have come across it during their trip to the mountains of their gewogs while accompanying the officials from Wangchuck Centennial National Park. A preliminary assessment was undertaken by some communities with the help of a veteran Cordyceps collector from Bumdeling, Trashhi Yangtse, which was not very positive. However, those who accompanied the survey team from WCNP claim to have come across good growth of Cordyceps in Pasalum and nearby areas along with disturbed sites and concealed rations possibly belonging to illegal Cordyceps collectors across the border.

We recommend undertaking thorough on-ground assessment of the claim during the next Cordyceps collection season. The assessment should cover both the quantity and quality of Cordyceps growing in the area to determine if it warrants issuing permits to collect.

## Background

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The Ugyen Wangchuck Institute for Conservation and Environment upon receiving the direction from the directorate, Department of Forests and Park Services on 16<sup>th</sup> September 2016, vide letter DoFPS/2/2016/342, tried to assess the claims on occurrences of Cordyceps in Lhuntse dzongkhag. Though Cordyceps from Khoma in Lhuntse dzongkhag is collected, it was not known to occur in other gewogs of the dzongkhag until it was reported recently by the communities to the department.

In Bhutan, Cordyceps are known to occur in the northern parts of the country near the border with Tibet within the elevation of 4000 to 5000 meters above mean sea level. In Bhutan Cordyceps are collected from the alpine region of 7 dzongkhags [15 gewogs] (Table 1).

*Table 1: Cordyceps growing areas in Bhutan*

<b>Dzongkhag</b>	<b>Gewogs</b>
Bumthang	Chokhor, Chumey and Tang
Gasa	Laya, Lunana and Khatey
Lhuentse	Khoma
Paro	Dotey, Soe and Tsento
Thimphu	Naro and Lingshi
Trashiyangtse	Bumdeling
Wangdiphodrang	Kazhi and Sephu

## Cordyceps in Lhuntse

Cordyceps in Lhuntse dzongkhag was reported only from Khoma region until post paddy harvesting season of 2013, when a group of porters from Ney and Jasabi village in Lhuntse located it growing. Porters were accompanying officials from Wangchuck Centennial National Park (WCNP) for camera trapping exercises. The team located it growing in the Kurtoe and Gangzur gewogs of Pasalung, Orola, and areas opposite to Orola.

## Ney and Jasabi villages

Ney is in Gangzur gewog and the village has over 100 registered households and is connected by farm road while Jasabi is in Kurtoe gewog with 11 registered households. The two villages are divided by tributaries of Bazaguru chu and Yarla lung chu which joins the Kuri chu.

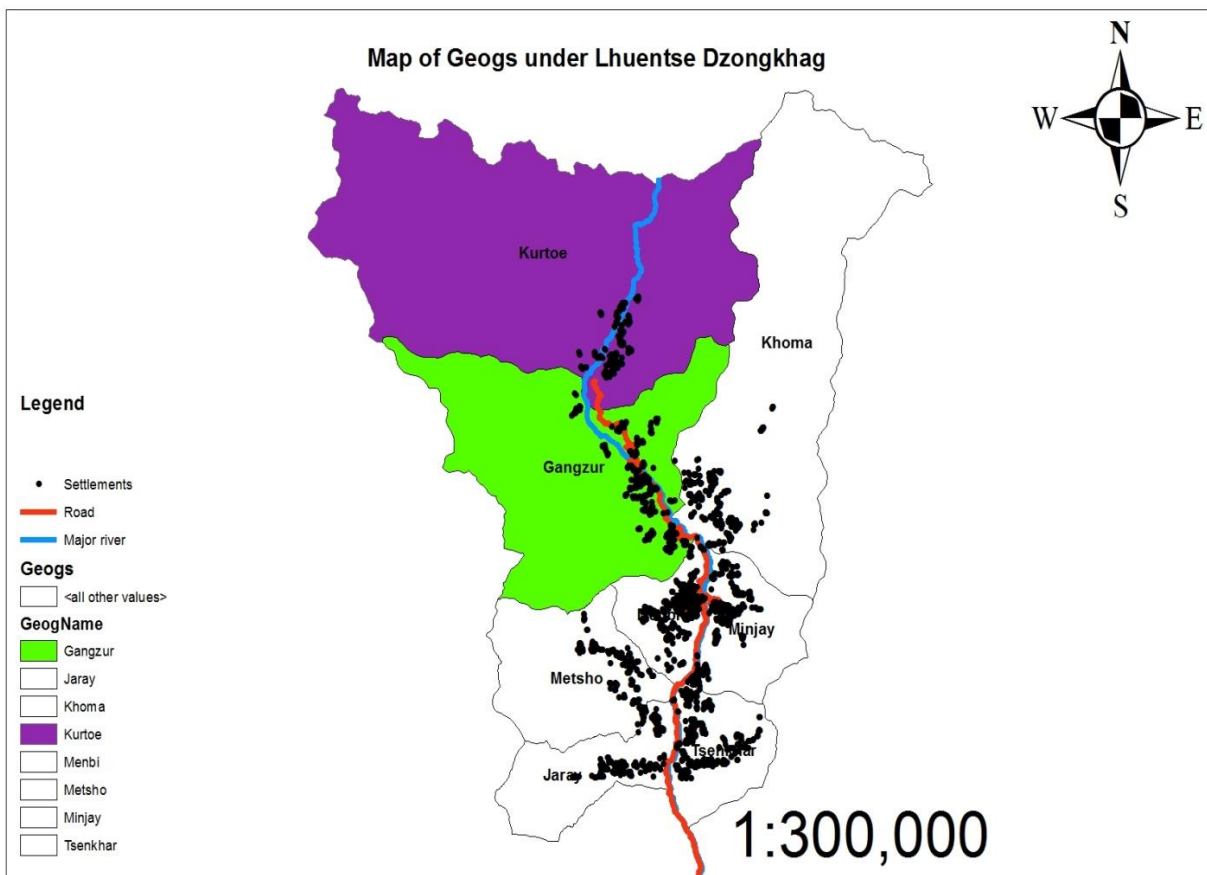
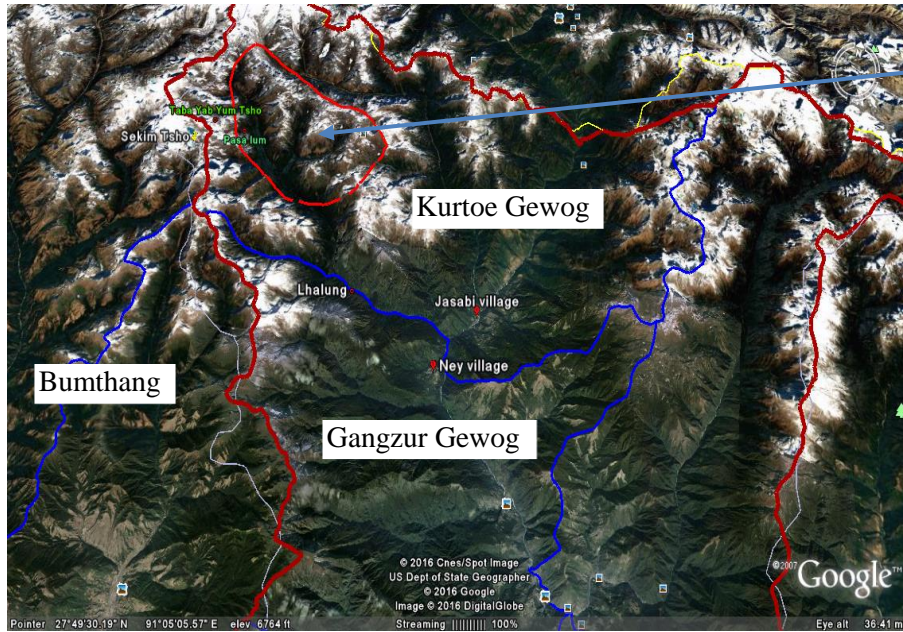


Figure 1: Lhuntse Dzongkhag



Cordyceps growing areas as identified by communities of Ney and Jasabi

Figure 2: Ney and Jasabi village in Lhuntse

### **Cordyceps in Kurtoe and Gangzur gewog**

The nationwide Snow Leopard survey was carried out in Wangchuck Centennial National Park, with effect from 25th of October 2015, covering the high land areas of all three Ranges within WCNP; Eastern Park Range (Pasalung area), Central Park Range (Dhur, Gangkhar Phunsum, Menlakarchung and Gomthang areas) and lastly in Western Park Range. The survey area for the Pasalung team ranged from fir forest to alpine meadows [3900mtrs till 5200mtrs] and members from this team reported on having come across Cordyceps.

Pasalung survey team comprised of 3 WCNP foresters and 9 porters from Ney and Jasabi villages. The porters during the camera trapping excursion saw for themselves the Cordyceps growing in Pasalung (elevation 4258 msl) and Orola (elevation 4420 msl ), both places within the purview of Kurtoe jurisdiction as ascertained through gewog boundaries in Google Earth [field assessment required]. Mr. Sonam Jamtsho [ex-tshopa of Chokortoe, Bumthang], who was among the porters helped other porters who were from Kurtoe and Gangzur gewog identify the fungi. One of the staff working in WCNP, who was amongst the camera trapping team, corroborated the claim of the porters and said that there’s good growth of Cordyceps in these areas.

Mr. Chorten [ex-tshogpa of Ney village] confided in us that they collected about 20 Cordyceps in an average from those places and could have collected more had they spent some time. He has his priced fungi collected from Pasalung, well preserved in ara; now for the last 3 long years. He also said that they encountered hidden rations possibly belonging to Cordyceps collectors in

those areas; ruffled ground indicating fungus being pulled off the ground and encounter of Tibetans in the collection arena. The team [porters] also came across two cattle shed in Orola top possibly belonging to Tibetans during the field excursion.

Following the incident, the community of Kurtoe and Gangzur put up application to the gewog center petitioning for the possibility of them to harvest it. According to the communities whom we interviewed, they claim to have written to the Ministry of Agriculture and Forests with regards to the possibility of issuing permits to collect the same in 2015 as well as in 2016 through respective gewog offices.

During the process of this study, we gathered names of the places from where they claim to have encountered Cordyceps. Following areas [where communities claim to have come across Cordyceps] probably falls within the administrative boundary of Kurtoe and Gangzur gewogs:

- Pasalung
- Orola
- Yue-tsho area
- Above Thangong

Mr. Tashi Dhendup from Jasabi village stated that in 2012, along with two of his friends, including a veteran Cordyceps collector from Bumdeling, Trashiyangtse scoured Zuthrigang mountain and found two small Cordyceps. However, he said that the veteran Cordyceps collectors from Bumdeling expressed scepticism over chances of finding abundant fungi in Zuthrigang area due to unhealthy landscape where they collected the fungi. Moreover, they could only stay up for a day and had to rush down owing to heavy downpour.

### **Reaching Cordyceps Areas**

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Unlike other dzongkhags where collectors throng the collection area with horses hauling their consignment, route to Kurtoe's possible fungal collection area stands out as being immensely undulating, tortuous and cumbersome. Ney villagers say that the paths are narrow and one has to cross bridgeless huge rivers 3 to 4 times and thus the option of horses rules out. Collectors then would have to carry loads on their own for painstaking 4 days upland while it would take about 2 days to descend.

Earlier, people from these gewogs used to visit hot springs of Pasalung to take divine dip but not for fungal collection as the local folks had no idea about it. However, communities believe that should the government issue permits to collect Cordyceps, they will need to re-look at having the new routes constructed.

## **Recommendations**

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After having listened to the communities who had first-hand encounter with the Cordyceps within the administrative jurisdiction of Kurtoe and Gangzur gewog, we would like to draw upon following recommendations:

- Undertake detail assessment of Cordyceps growing areas within Kurtoe and Gangzur gewogs in the coming Cordyceps collection season
- Determine the correct gewog boundary while undertaking the Cordyceps assessment
- Assess the quantity as well as quality of Cordyceps growing in the area to determine if it warrants issuing permits to collect
- Since Pasalung falls in areas where Bhutan is still in negotiation with China on international border, utmost care should be pursued while undertaking the assessment study

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**For detail, please contact:**

Sangay Wangchuk, UWICE – [swangchuk@uwice.gov.bt](mailto:swangchuk@uwice.gov.bt)  
Karma Thukten, UWICE – [kthukten@uwice.gov.bt](mailto:kthukten@uwice.gov.bt)  
Jamyang Tenzin, UWICE – [jtenzin@uwice.gov.bt](mailto:jtenzin@uwice.gov.bt)

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