

Supplemental data for

“Social and ecological consequences of commercial harvesting of oak forest for firewood in Bhutan”, by Mani Ram Moktan, published in *Mountain Research and Development* 34(2), 2014. (See <http://www.bioone.org/toc/mred/34/2>)

TABLE S1 Oak growing sites selected in Bhutan, with location and geophysical and climate characteristics.

Location	Longitude	Latitude	Altitude (m)	Slope (°)	Aspect	Soils	Temp		Rainfall (mm/yr)	Area (ha)	Disturbance
							Max	Min			
Chamgang, Thimphu	89°40'	27°26'	3032	22	North	Acidic soils with coarse texture (Ganser 1983)	27.6°C	-1.5°C	1775	0.01	Unharvested
Chamgang, Thimphu	89°40'	27°26'	2962	09	North	Acidic soils with coarse texture (Ganser 1983)	27.6°C	-1.5°C	1775	0.01	Harvested
Chelela, Paro	89°24'	27°23'	2857	13	South	Acidic soils with coarse texture (Ganser 1983)	24.0°C	-4.7°C	1015	0.01	Unharvested
Chelela, Paro	89°24'	27°23'	3234	14	South	Acidic soils with coarse texture (Ganser 1983)	24.0°C	-4.7°C	1015	0.01	Harvested
Lamjokatsho, Haa	89°16'	27°23'	3265	31	North	Well-drained acidic soils (Rinchen and Pushparajah 1994)	24.0°C	-6.5°C	810	0.01	Unharvested
Lamjokatsho, Haa	89°16'	27°23'	3428	28	North	Well-drained acidic soils (Rinchen and Pushparajah 1994)	24.0°C	-6.5°C	810	0.01	Harvested
Bjena, Wangdue	90°05'	27°30'	2123	18	North	Sandy clay loam, humic cambisols (Ganser 1983)	26.3°C	8.0°C	611	0.01	Unharvested
Bjena, Wangdue	90°05'	27°30'	2180	16	North	Sandy clay loam, humic cambisols (Ganser 1983)	26.3°C	8.0°C	611	0.01	Harvested
Bongo, Chukha	89°30'	26°56'	2229	16	North	Haplic cambisol (Simon 2011)	20.1°C	2.7°C	2045	0.01	Unharvested
Bongo, Chukha	89°30'	26°56'	2397	18	North	Haplic cambisol (Simon 2011)	20.1°C	2.7°C	2045	0.01	Harvested
Dorjigonpa, Trongsa	90°31'	27°30'	2865	29	North	Yellow brown forest soils (Okazaki 1987)	22.8°C	0.2°C	972	0.01	Unharvested
Dorjigonpa, Trongsa	90°31'	27°30'	2691	16	North	Yellow brown forest soils (Okazaki 1987)	22.8°C	0.2°C	972	0.01	Harvested
Kilikhar, Mongar	91°15'	27°15'	1785	20	North	Bright subsoil, thin dark topsoil (Baillie et al 2004)	27.3°C	5.7°C	635	0.01	Unharvested
Kilikhar, Mongar	91°15'	27°15'	1786	13	North	Bright subsoil, thin dark topsoil (Baillie et al 2004)	27.3°C	5.7°C	635	0.01	Harvested
Barsong, Trashigang	91°35'	27°13'	2315	04	South	Sandy clay loam, humic cambisols (Ganser 1983)	25.8°C	5.2°C	1060	0.01	Unharvested
Barsong, Trashigang	91°35'	27°13'	2292	04	South	Sandy clay loam, humic cambisols (Ganser 1983)	25.8°C	5.2°C	1060	0.01	Harvested
Gempong, Zhemgang	90°41'	27°11'	1742	31	North	Bright subsoil, thin dark topsoil (Baillie et al 2004)	24.3°C	6.2°C	1361	0.01	Unharvested
Gempong, Zhemgang	90°41'	27°11'	1440	27	North	Bright subsoil, thin dark topsoil (Baillie et al 2004)	24.3°C	6.2°C	1361	0.01	Harvested

FIGURE S1 Species diversity and evenness in unharvested and harvested oak stands.

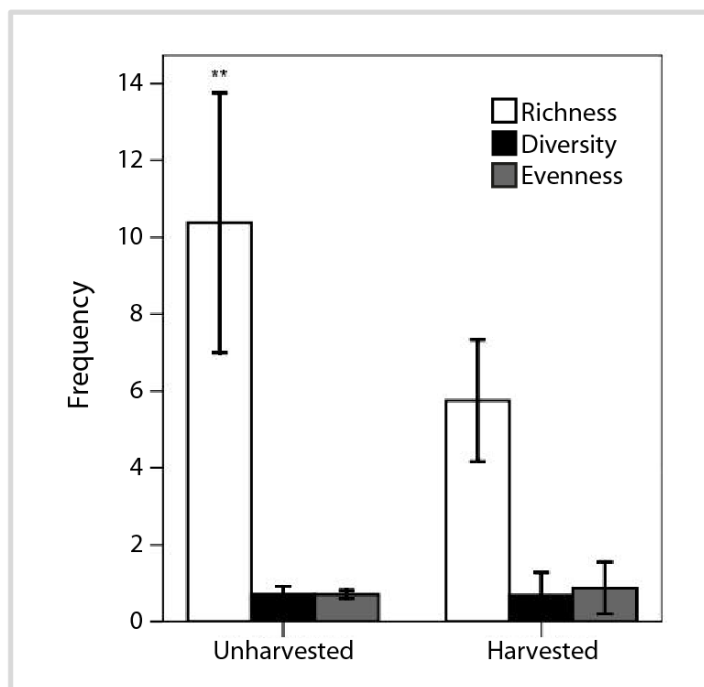


TABLE S2 Number of seedlings per hectare in unharvested and harvested oak stands (mean \pm sd).

Location	Unharvested	Harvested	Z	p
Barshong	491 \pm 508	600 \pm 608	-0.396	0.692
Bjena	2020 \pm 3254	1700 \pm 2736	-0.249	0.803
Bongo	2014 \pm 2874	1780 \pm 2338	-0.245	0.806
Chamgang	491 \pm 508	600 \pm 608	-0.396	0.692
Chelela	6720 \pm 8190	3775 \pm 5164	-0.123	0.902
Dorjigonpa	650 \pm 734	1800 \pm 3060	-0.106	0.915
Gempong	1342 \pm 3033	1211 \pm 1685	-0.472	0.637
Kilikhar	892 \pm 1653	822 \pm 870	-0.623	0.533
Lamjokatsho	2750 \pm 3937	1820 \pm 2343	-0.123	0.902
Pooled	14000 \pm 3052	1488 \pm 2306	-1.265	0.206

Note: Z values denote Mann-Whitney *U* test results; *p* values denote the level of significance at ≤ 0.05 .