

#### Reviewer's comment

This manuscript reports human-environment interaction in northwestern China during the late Neolithic and Bronze Age. The study highlighted the impact of agriculture on human wood utilization in this area. On the whole, I believe that this manuscript has significant merit to warrant publication, in particular the amount of work done to reveal the history of human wood usage in northwestern China. However, there are still some issues with this manuscript, and should be revised. The major concerns are as follow:

#### Introduction:

I am uncertain what the exact question or hypothesis is of the authors. It seems to me like there was no clear expectation set forth at the beginning of the manuscript and that the authors just did a large-scale analysis with no clear plan. The question in this study is “Anthropogenic impact on environment” or “wood usage and its influencing factors” ? From line 120-122, it seems to discuss “wood usage and its influencing factors” ?

#### Discussion:

The author highlighted that anthropogenic impact on deforestation. However, has climate change also played the role? Because, the climate in northwestern China has become cold and dry since the late Neolithic. So if the deforestation was entirely caused by human wood collection, it should be ruled out the impact of climate change on woody vegetation, especially that of Spcure.

The pollen records in Fig 4 are from the archaeological sites? The captions of this figure should be more explained. If so, the similar changes in the records of charcoal and pollen do not indicate the woody degradation in northwestern China. Because pollen records from the section of archaeological site likely also show the trend of wood usage.