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To Whom It May Concern:

The concepts behind the Methodology for Sustainable Grassland Management developed by the Food and Agriculture Organization of the United Nations has the potential of bringing us one step closer in documenting the vast potential of grasslands in supporting resilient livelihoods while sequestering carbon and mitigating global climate change.

Large swathes of the world's grasslands are severely degraded. Billions of hectares of grasslands are experiencing desertification, a major contributor to global climate change. Carbon once stored in deep layers of living soils, has been released into the atmosphere through oxidization of plant materials and soil organic matter.

Empowering and compensating people to restore the grasslands of the world to a healthy state has the potential of removing gigatonnes of carbon from the atmosphere and putting it back into the soils where it belongs.

We would like to address and challenge a few of the assumptions made in this proposed methodology and provide recommendations for improvement.

### **Livestock or properly managed Livestock?**

We find it critically important that we first distinguish between those impacts that are due to livestock themselves, and those that are in fact due to how human beings decide to manage livestock. As a simple example, the FAO report, "Livestock's Long Shadow" notes (page 97) that manure deposited on fields and pastures, or otherwise handled in a dry form, does not produce significant amounts of methane. However, if people place those animals into a Confined Animal Feeding Operation (CAFO) the manure is then managed in liquid form, normally in lagoons or holding tanks. It is here that the methane produced becomes an issue. This impact is caused by human decisions and actions, not livestock. Livestock like cows and sheep know everything they need to know to be cows and sheep, but they don't know about managing land. This means that whether the impact these animals have on a landscape is negative or positive depends solely on the decisions made by the people who manage them.

Removing livestock (or decreasing stocking rates) will not create any significant contribution to restoring grasslands unless the management of the remaining livestock changes. In fact, under the assumption of properly managed livestock, reducing numbers in seasonal or semi arid grasslands, could indeed contribute to the problem of green house gas emissions as carbon will continue to be displaced from soils into the atmosphere. Properly managed livestock (planning for the

appropriate timing, duration, intensity and frequency of grazing and allowing for adequate recovery periods) is a key in sequestering carbon while at the same time enhancing the viability of pastoralists' livelihoods. This approach not only offers hope because of the monetization of soil carbon, but also because properly managed livestock has the potential to regenerate the productivity of these pastoralists' resource base, at a low cost, in a socially and culturally relevant manner.

### **Properly managed livestock could be a zero green house gas emitter.**

Properly managed livestock may be considered a zero emitter of CH<sub>4</sub> since what the bacteria in the rumen emits, microbial activity in healthy soils are able to use up. As you know, methane is produced by bacteria in the gut of ruminant animals as a by-product of their essential task of cycling plant material. By properly managing livestock in nature's image nothing is waste. In fact, and as I'm sure you are aware, there are methane-oxidizing bacteria in healthy soils that consume methane and convert it into CO<sub>2</sub> and water. Management of grasslands, including the misuse of fire has impacted the populations of these bacteria. Yet, proper grazing management increases their numbers enough to make a significant difference.

### **Fire or ruminants?**

Green house gas reductions are not achieved by just removing livestock from seasonal or semi-arid grassland. If the grass isn't consumed by herbivores, it keeps growing, oxidizing, and will eventually succumb to a fire. The appropriate question is: "Which is better – fire or ruminants?" If humans stop burning all the grasslands each year and implement proper grazing management, how much extra meat could be sustainably produced? Does this additional food help address our rising global population while freeing up some of our cropping lands to grow something more useful than corn and soy to feed cattle, with their own associated carbon emissions?

### **The potentiality of soils to store carbon.**

The statement that within ten years the grasslands will have stored as much carbon as possible, even if accurate (this is not well documented) overlooks the fact that a soil that has recovered its healthy levels of carbon (in the form of stable humus) is managed by people empowered with the knowledge to properly manage livestock and stop desertification. These soils have now become fertile, able to retain water and produce increasing quantities and quality of forage and can now sustain profitable and ecologically sound livestock enterprises. This is a truly triple bottom line solution to global climate change.

### **Conclusion:**

Properly managed livestock are essential to healing grasslands and realizing the potential of increasing their ability to sequester carbon. We offer that an increase of properly managed livestock will be needed to accomplish the immediate crisis of stopping desertification and the associated loss of soil carbon. It is acknowledged that management of livestock by humans will have to drastically change. It is the duration of grazing episodes, and their frequency (the time needed for the adequate

recovery of plants and soils) that needs to be managed. Fortunately, there exist a proven methodology to accomplish this – Holistic Management.

If the assumptions we are challenging could be considered and reviewed, this methodology with modifications could make it possible for small-scale herders and livestock raisers to not only participate in carbon markets and benefit from the ecological services they provide, but lead the fight to revert the current trends of global climate change.

Respectfully,

*Andrea Malmberg*

Andrea Malmberg  
Director of Research and Knowledge Management