

A Rhetoric to Climate Change Fashion: Base of the Biomass Pyramid is an Underestimated Carbon Sink

Syed Abbas

Center of Bioresource Research, fakharabbas@hotmail.com

Ehjaz R. Abbas

Institute of Natural and Management Sciences, Pakistan

Follow this and additional works at: <https://corescholar.libraries.wright.edu/jbm>



Part of the [Environmental Sciences Commons](#)

Recommended Citation

Abbas, S., & Abbas, E. R. (2017). A Rhetoric to Climate Change Fashion: Base of the Biomass Pyramid is an Underestimated Carbon Sink, *Journal of Bioresource Management*, 4 (1).

DOI: 10.35691/JBM.7102.0065

ISSN: 2309-3854 online

(Received: May 28, 2019; Accepted: May 29, 2019; Published: Jan 1, 2017)

This Article is brought to you for free and open access by CORE Scholar. It has been accepted for inclusion in *Journal of Bioresource Management* by an authorized editor of CORE Scholar. For more information, please contact library-corescholar@wright.edu.

A Rhetoric to Climate Change Fashion: Base of the Biomass Pyramid is an Underestimated Carbon Sink

© Copyrights of all the papers published in Journal of Bioresource Management are with its publisher, Center for Bioresource Research (CBR) Islamabad, Pakistan. This permits anyone to copy, redistribute, remix, transmit and adapt the work for non-commercial purposes provided the original work and source is appropriately cited. Journal of Bioresource Management does not grant you any other rights in relation to this website or the material on this website. In other words, all other rights are reserved. For the avoidance of doubt, you must not adapt, edit, change, transform, publish, republish, distribute, redistribute, broadcast, rebroadcast or show or play in public this website or the material on this website (in any form or media) without appropriately and conspicuously citing the original work and source or Journal of Bioresource Management's prior written permission.

A RHETORIC TO CLIMATE CHANGE FASHION: BASE OF THE BIOMASS PYRAMID IS AN UNDERESTIMATED CARBON SINK

*¹Fakhar-i-Abbas, ²Ehjaj Raza Abbas

¹Centre for Bioresource Research, Pakistan

²Institute of Natural and Management Sciences, Pakistan

*¹Email: fakharabbas@hotmail.com

ABSTRACT

This writing is an attempt to present few wild ideas, rhetoric to climate change fashion. We discussed the possibility of escaped fertilizers being produced globally and their possible role in capturing atmospheric carbon believing that some factors of climate change are being ignored while other are being over emphasized.

Climate change is generally attributed to the increased level of atmospheric carbon dioxide (CO₂) produced by direct/ indirect burning of the fossil fuels and is largely believed to be effect of increased retaliatory hitting back of nature towards excesses of human species in ecosystem exploitation. Looking at some of the recently reported facts, like, increased values of normalized difference vegetation index (NDVI) and length of deciduous seasons (Varlamova and Solovyev, 2016) this myth needs to be re-examined. It is believed that carbon sink is mysteriously (or lately discovered) increasing and it constitutes some 35% of the total carbon present in atmospheric air; sometimes mentioned as unknown sink of carbon (Pan et al., 2011). Nehring (2009) recorded that around 28.3-36.3 billion metric tons of CO₂ is emitted annually from the fossil fuel burning, which is 50 times more than sink reported by Pan et al. (2011). Continuous increase of oceanic algae is probably indicative of a similar phenomenon

occurring in terrestrial land where vegetation and of course the forests, are increasing. Carbon, nitrogen and phosphorus are probably driving the overall growth of vegetation at higher pace. Fossil fuel (especially natural gas) is also being used to extract nitrogen in synthesis of fertilizers and around 450 million tons of nitrogen fertilizer is being extracted by Haber process (Smil, 2004; Smith, 2002). Some 1-2% of world's fossil fuel is already being consumed to produce anhydrous ammonia, ammonium nitrate and urea, which can capture 75 trillion tons of carbon emitted which equals to almost 60% of total carbon emitted in the form of CO₂ of the total nitrogenous fertilizers produced only about 10% is actually required for agriculture and related business, while the rest goes to general environment, including underground and ground water resources.

Vegetation cover, if not the total forest cover, is at a rise. Biomass

accumulation is an ongoing process since life originated on this planet some 3.8 billion years ago. From the first cell to billions of hectares of forest cover this development is going on. Successional changes are a regular process regulating changes in animal and plant communities and their extinctions. However, like the large size animals could not maintain their survival may be the similar factor would replace the large sized plants from forest to smaller sized biomass. We observe increased lichenization of cold desert of Northern areas of Pakistan during the last 20 years, though the changes yet need to be quantified. Similarly, canyons of Plateau (northern Punjab, Pakistan) have started looking greener with emergence of herbs. These can be the first stages of plant succession. Inferring from the above, we are claiming that base of biomass pyramid, receiving good supply as oceanic algal bloom is probably because of the wash away fertilizers from the earth which are resulting into capturing carbon for growth of vegetation. Probably, what we are trying to nudge is that the global climate change studies should also focus on the other aspects rather than totally focusing on carbon dioxide accumulation only.

REFERENCES

- Varlamova E, Solovyev V (2016). Study of NDVI vegetation index in East Siberia under global warming. In XXII International Symposium Atmospheric and Ocean Optics. Atmos Phys, 10035: 100355.
- Pan Y, Birdsey R.A, Fang J, Houghton R, Kauppi PE, Kurz WA, Phillips OL, Shvidenko A, Lewis, SL, Canadell JG and Ciais P (2011). A large and persistent carbon sink in the world's forests. Science, 333(6045): 988-993.
- FAO (2015). Current world fertilizer trends and outlook to 2018. Food and Agricultural Organization of the United Nations, Rome.
- Nehring R (2009). Traversing the mountaintop: world fossil fuel production to 2050. Philosophical Transactions of the Royal Society of London B. Biol Sci, 364(1532): 3067-3079.
- Smil V (2004). Enriching the earth: Fritz Haber, Carl Bosch, and the transformation of world food production. MIT press, Marylebone.
- Smith BE (2002). Nitrogenase reveals its inner secrets. Science, 297(5587): 1654-1655.