## **Supplementary Materials**

Soil quality	GAEZ's constraint class	Reclassified class (used in this study)	
Severity class applied	No constraints	No or slight constraints	
for combined soil	Very few constraints		
	Few constraints		
constraints (GAEZ	Partly with constraints	- Madavata constraints	
2002 data) (Fischer et	Frequent severe constraints	- Moderate constraints	
al., 2002)	Very frequent severe constraints	— Severe/very severe constraints	
	Unsuitable for agriculture		

Table S1. Reclassification of the FAO/IIASA's severity scale for soil constraints

Table S2. Combination of soil constraint and terrain constraint classes

Terrain constraint	Soil constraint	Terrain/soil constraint
No/slight	No/slight	No/slight
No/slight	Moderate	Moderate
No/slight	Severe/very severe	Severe/very severe
Moderate	No/slight	Moderate
Moderate	Moderate	Moderate
Moderate	Severe/very severe	Severe/very severe
Severe/very severe	No/slight constraint	Severe/very severe
Severe/very severe	Moderate	Severe/very severe
Severe/very severe	Severe/very severe	Severe/very severe

Table S3. Main land cover types aggregated from the original classes of the SERVIR Land Cover map of LMB countries in 2015.

Land cover type from blitt in land cover map		broud faile cover types used in this study			
2015 in degraded area					
Code	Land cover type	Code	New land cover type		
0	Other	6	Other		
1	Surface Water	6	Other		
3	Mangrove	1	Mangrove		
4	Flooded forest	1	Mangrove		
5	Deciduous forest	2	Deciduous forest		
8	Evergreen broadleaf	3	Evergreen forest		
9	Evergreen needleleaf	3	Evergreen forest		
11	Mixed evergreen and deciduous	4	Mixed evergreen and deciduous		
12	Urban and Built up	6	Other		
13	Cropland	5	Cropland		
14	Rice paddy	5	Cropland		
17	Barren	6	Other		

Land cover type from SERVIR Land cover map Broad land cover types used in this study



**Figure S1.** Inter-annual NDVI-temperature correlation in the area of NDVI decline. About 90% of degraded area across the LMB countries has not been associated significantly with temperature reduction.

## References

Fischer, G., van Velthuizen, H.T., Shah, M., Nachtergaele, F.O., 2002. Global Agro-ecological Assessment for Agriculture in the 21st Century - Methodology and Results. International Institute for Applied Systems Analysis (IIASA) and Food and Agriculture Organization of the United Nations (FAO), Laxenburg.