

# 3 Supplementary material: Interplay between diets, 4 health, and climate change

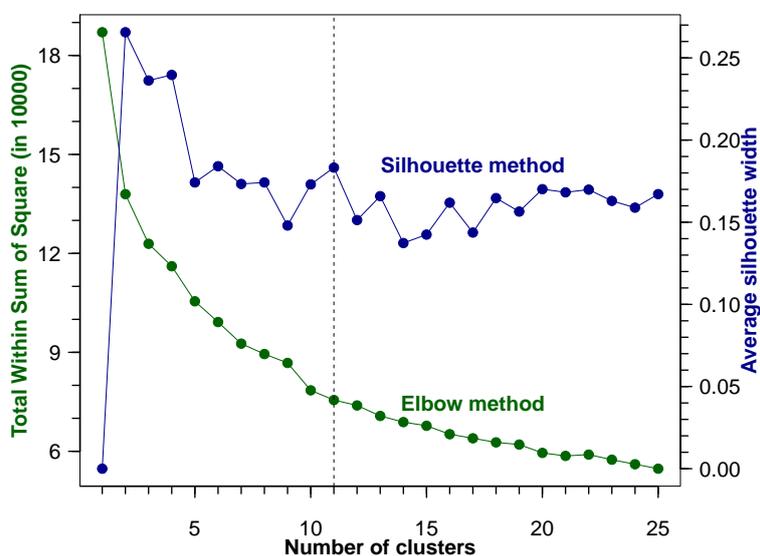
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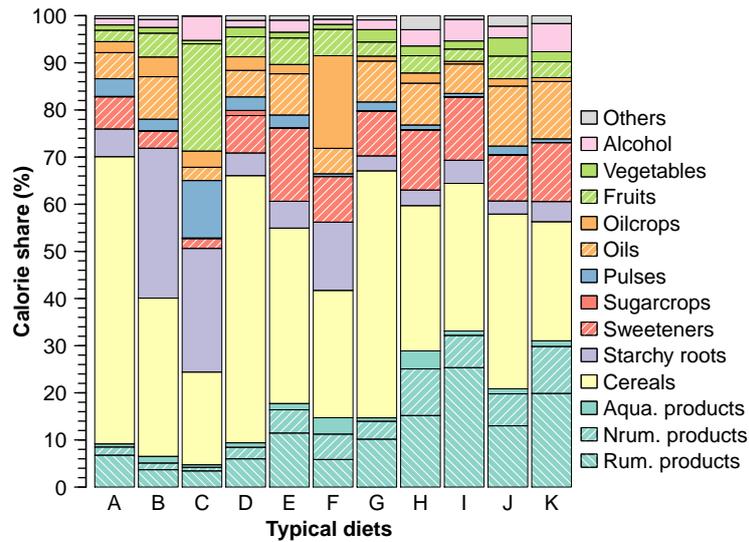
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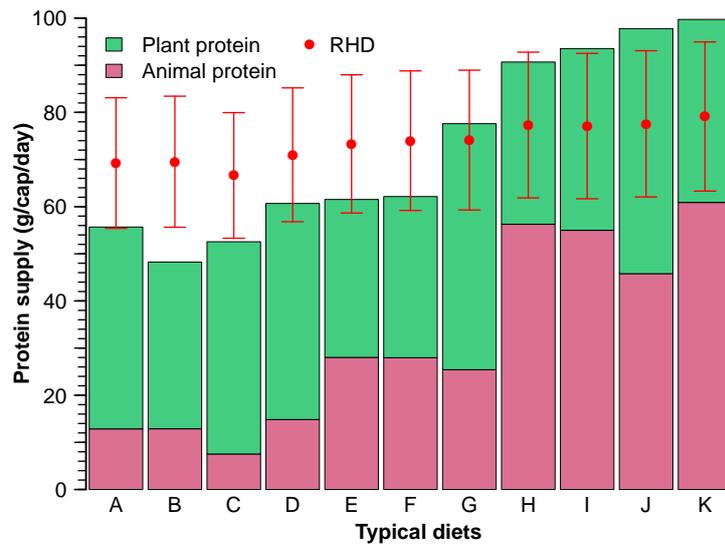
10 Version April 21, 2020 submitted to Sustainability



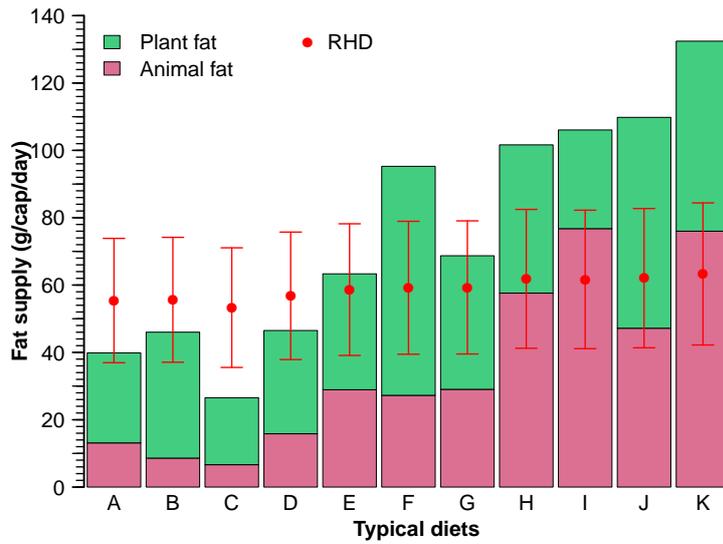
**Figure S1.** We determine 11 clusters to represent the food supply data based on the elbow and silhouette method based on 100 iterations. The elbow at  $k$  equals 10 is ambiguous. Therefore, we additionally apply the silhouette method to choose the right cluster number.



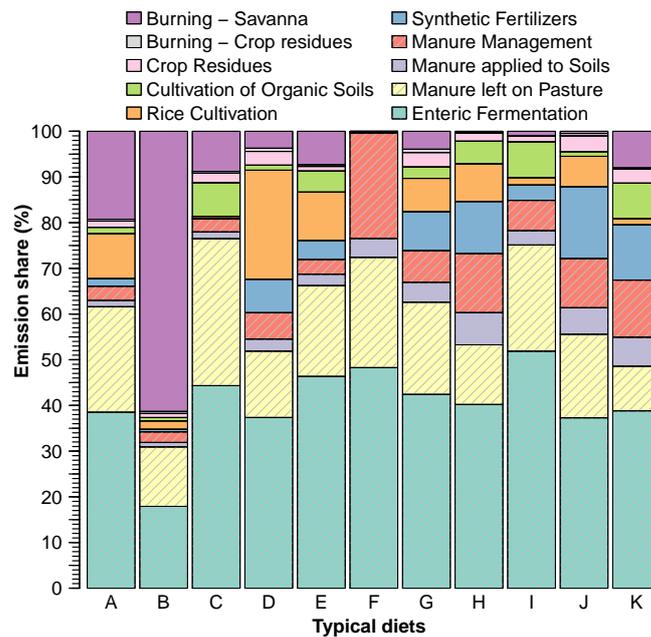
**Figure S2.** The calorie shares of different food groups vary in the diets. The animal source foods, consisting of aquatic (Aqua.), ruminants (Rum.) and non-ruminants (Nrum.) products, contribute to more than 20% of calorie share in the energy-dense diets, composed of larger than 2,800 kcal/cap/day (H-K).



**Figure S3.** Plant and animal protein content varies among the diets. A larger share of proteins is contributed by animal sources in the energy-dense diets, composed of larger than 2,800 kcal/cap/day (H-K). The red dots represent the average amount of proteins based on the recommended healthy diet (RHD) and the dietary energy requirements.



**Figure S4.** Fat from animal source foods varies among the diets. A larger share of fats is contributed by animal source foods in the energy-dense diets composed of larger than 2,800 kcal/cap/day (H–K). The red dots represent the average amount of fats based on the recommended healthy diet (RHD) and the dietary energy requirements.



**Figure S5.** The contributions of the agricultural emissions sub-domains to the total agricultural emissions differ according to the diets. In most of the diets, the livestock sector contributes a larger share of emissions than crop production (shaded lines).

**Gif S1.** World maps show the spatial distribution of the diets between 1961 and 2013. In recent decades, countries are mostly shifting for low-energy diets (A–C) to energy-dense diets (H–K). Grey color represents countries with no data.

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