SUPPORTING INFORMATION

Embodied greenhouse gas emissions in diets

Prajal Pradhan\(^1\)*, Dominik E. Reusser\(^1\), Juergen P. Kropp\(^1,2\)

1 Potsdam Institute for Climate Impact Research, Potsdam, Germany
2 University of Potsdam, Dept. of Geo- and Environmental Sciences, Potsdam, Germany

* E-mail: pradhan@pik-potsdam.de

1 Characteristics of Identified Dietary Patterns

The derived sixteen dietary patterns are distinguished by their energy content and food composition. The diets are broadly categorized into low (<2,100 kcal/cap/day), moderate (2,100–2,400 kcal/cap/day), high (2,400–2,800 kcal/cap/day), and very high calorie diets (>2,800 kcal/cap/day) based on average energy requirements. An average of 2,100 kcal/cap/day is recommended as the minimum energy requirement for a typical population in a developing country, assuming a standard population distribution and body size, for survival and light physical activity [1]. For a moderately active lifestyle of a female population between age 18 to 30 with a mean height of 1.70 m, a mean energy intake of 2,400 kcal/cap/day is recommended [2]. For a male population with similar features the energy requirement is of 2,800 kcal/cap/day [2].

The characteristics of the dietary patterns are as follows:

1.1 Low Calorie Diets

Pattern #2 (avg. 2,000 kcal/cap/day) demonstrate a diet with a high fraction of pulses, fruits, starchy roots and alcoholic beverages as a basis for the food consumption pattern. It is also characterized by a low fraction of vegetables and vegetable oil in comparison to other patterns. Landlocked countries in Eastern Africa, e.g. as Rwanda, Uganda and Burundi were members of this dietary pattern for almost the entire period of the analysis.

Pattern #3 (avg. 2,018 kcal/cap/day) is characterized by the highest amount of starchy roots. Starchy roots, cereals and pulses contribute more than 70% of the total food supply. Mainly Middle African and West African countries like Angola, Benin, Congo, Cote d’Ivoire, Democratic Republic of Congo and Ghana belong to this class for the majority of years during 1961-2007.

1.2 Moderate Calorie Diets


**Pattern #7** (avg. 2,210 kcal/cap/day) is a diet characterized by the highest amount of vegetable oils and the lowest fraction of animal products in the current group. Mainly West African countries like Gambia, Guinea-Bissau, Liberia, Nigeria, Senegal and Sierra Leone were members of this pattern for almost the entire period (1961-2007).

The dietary **pattern #8** (avg. 2,270 kcal/cap/day) shows the highest value of sugar crops, a high value of fruits with cereal and starchy roots contributing 30% and 20% of total food energy supply, respectively. Two Central African countries, namely Cameroon and Gabon, belonged to the pattern for almost the entire period of 1961-2007, while two Western African countries, Cote d’Ivoire and Ghana were members for only a couple of years (1964-1972, 1975-1982 and 1975-1976, 2005-2007).

### 1.3 High Calorie Diets


**Pattern #10** (avg. 2,580 kcal/cap/day) features the highest amount of cereals in the current group contributing more than 55% of total food supply. This pattern was found in some countries belonging to West Asia, North Africa, Former Soviet Union and in transition economies. Charac-


### 1.4 Very High Calorie Diets


Finally pattern #16 (avg. 3,430 kcal/cap/day) defines the class of countries with the highest total calorie intake. It is also associated with the highest consumption of vegetable oils, vegetables and fruits. The consumption of animal products is comparatively low in comparison to pattern #14 and #15, but higher than for pattern #12 and #13 diets. Developed countries in the Mediterranean region like Greece, Italy and Spain were members of this pattern mostly during the period from 1967 to 2007, whereas other developed countries shifted to this pattern later, e.g. like Canada (1995-2007), Belgium (2002-2005), USA (2000, 2002; 2004-2007).

References
