ENVIRONMENTAL IMPACT ASSESSMENT OF THE FOOD SUPPLY CHAIN AT VARIOUS GEOGRAPHICAL LEVEL

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Background

The environmental impact of food has become increasingly important in recent years. The world population will be about 9.73 billion; the total amount of net greenhouse gas emissions produced by the food and agricultural sectors is 12.3 Gt, or about 26% of total greenhouse gas emissions (FAO, 2011). The livestock sector, with emissions estimated at 7.1 gigatonnes of CO2-eq per year, represents 14.5% of the total emissions of all anthropogenic greenhouse gas.

Objectives

Calculate the overall environmental impact of food production, with a focus on carbon, water and the ecological footprint, both at European and regional level.

Identify possible solutions to reduce the environmental impact of livestock.

Methodologies

A comprehensive evaluation of the food supply chain will be carried out to identify the impact of the different steps. The calculation for European countries will be based on the European Food Consumption Database (EFSA) for consumption data and on the review of the environmental impact of scientific literature and available databases.

A detailed analysis will be carried out for the livestock sector. The analysis will be carried out using: models based on biogeochemical processes and models based on processes analyzing a life cycle assessment framework (LCA).

Expected Results and Impact

Calculation of the environmental impact of food for different European countries, based on their consumption and food production.

Find and model new livestock management solutions to minimize environmental impact.

Develop a framework for analyzing and calculating the environmental impact of different solutions for the food chain.