

# Human nutrition as key to nutrient emissions into water

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The western society is rested upon a strong animal-based nutrition, which is far of a healthy balanced diet. Furthermore, the production of animal based food consumes five to six times more resources (e.g.: area, fertilizer) compared to plant-based food and is closely connected to environmental pollution (e.g.: emission of greenhouse gases, water pollution). Especially the regional nitrogen turnover is highly driven by the request from human nutrition on agricultural production. While the efficiency of the transfer of applied nitrogen into the product is 60 – 70 % for vegetarian food, it is 15 – 25 % for animal based food. Thus population’s diet is a material factor (a driver) for environmental pollution from food production.

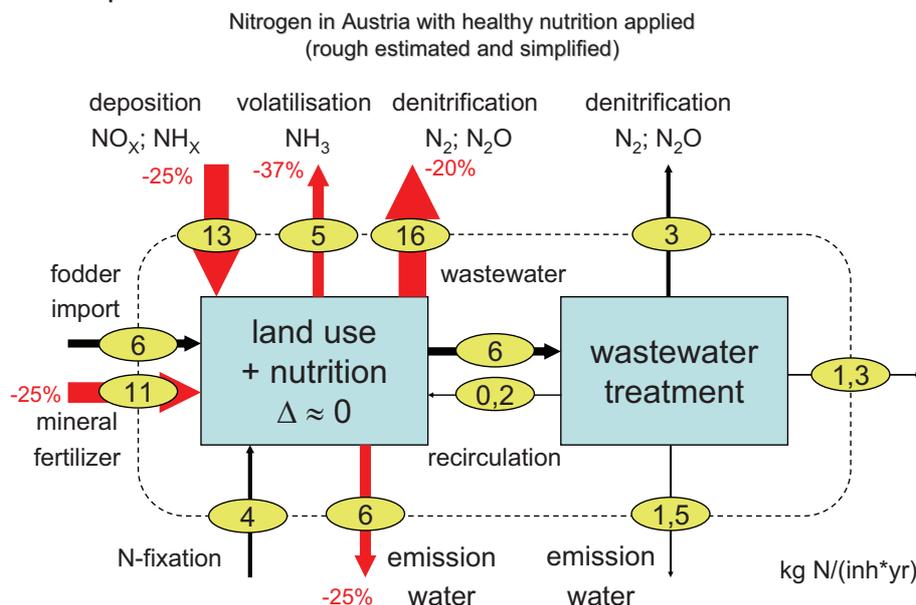


Figure 1: Possible changes in the national nitrogen balance of Austria by introduction of a “healthy nutrition”

This contribution will introduce a project investigating the relations between nutrition, health, food production, energy and water. The project is based on the hypothesis that a “healthy” diet for the population is a significant key to sustainable agriculture. Nutrition of the population in accordance to health recommendations (50 % less meat consumption, contra balanced by an increasing amount of vegetarian food) would dramatically change the environmental impacts. Assuming the same basic nitrogen efficiency of agricultural as it is performed at present, this shift in production would lead to a dramatic relief in respect to environmental pressure. Figure 1 shows a rough estimation of the changed nitrogen fluxes in Austria. The essential innovation of the project lies in the holistic investigation of the problem, the interlinking of different specialist fields and the combination of methodological approaches. Scenarios can be calculated through the quantitative description of these correlations and the effects of different strategies can be compared with one another. The results will then be edited for a broad public and tried out in cooperation with project cooperation partners within the project duration.