

Analysis, Evaluation and Optimization of Food Management: Minimization of Food Losses and Food Wastage along the Food Value Chain

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Abstract : A method developed at the University of Stuttgart will be presented: 'Analysis, Evaluation and Optimization of Food Management'. A major focus is represented by quantification of food losses and food waste as well as their classification and evaluation regarding a system optimization through waste prevention. For quantification and accounting of food, food losses and food waste along the food chain, a clear definition of core terms is required at the beginning. This includes their methodological classification and demarcation within sectors of the food value chain. The food chain is divided into agriculture, industry and crafts, trade and consumption (at home and out of home). For adjustment of core terms, the authors have cooperated with relevant stakeholders in Germany for achieving the goal of holistic and agreed definitions for the whole food chain. This includes modeling of sub systems within the food value chain, definition of terms, differentiation between food losses and food wastage as well as methodological approaches. 'Food Losses' and 'Food Wastes' are assigned to individual sectors of the food chain including a description of the respective methods. The method for analyzing, evaluation and optimization of food management systems consist of the following parts: Part I: Terms and Definitions. Part II: System Modeling. Part III: Procedure for Data Collection and Accounting Part. IV: Methodological Approaches for Classification and Evaluation of Results. Part V: Evaluation Parameters and Benchmarks. Part VI: Measures for Optimization. Part VII: Monitoring of Success The method will be demonstrated at the example of an investigation of food losses and food wastage in the Federal State of Bavaria including an extrapolation of respective results to quantify food wastage in Germany.

Keywords : food losses, food waste, resource management, waste management, system analysis, waste minimization, resource efficiency

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