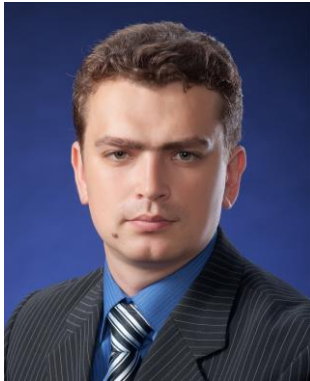


Expert Talk



Sergiy Smetana, DIL e.V.

„Potentials of Life Cycle Assessment for the Food Production“

Human well-being is strongly connected to the agricultural and food production and it is especially obvious in the Oldenburger Münsterland where the meat production became the strong economic booster. However, the food and agricultural productions cause multiple environmental and social disturbances, therefore it is necessary to create a methodology to evaluate the degree of the negative positive influence within the pillars of sustainability.

NieKE – the Lower Saxony Agrifood Competence Center interviewed Mr. Sergiy Smetana, who works at the German Institute of Food Technologies (DIL) and is a PhD candidate at the University of Vechta, ISPA.

NieKE: Mr. Smetana, you developed a methodology on a base of the Life Cycle Assessment. What does a Life Cycle Assessment mean?

Smetana: Life Cycle Assessment reviews the use of resources like electricity, water, land, and pesticides for the production of one unit of food and impacts of the production along the supply chain starting from the farm and ending in the waste basket of the consumer. This way the environmental impact relative to the production unit is estimated. In my thesis I expand the methodology to the social and economic spheres of regional development.

NieKE: Which actors rely on the use of Life Cycle Assessment methodology?

Smetana: Currently, LCA is widely used by big enterprises, for example Nestle, Mars and Unilever, because of consumer demand for the sustainability assurance and because LCA aims at the optimization of resources use, indirectly the decrease of costs. It is used by the food producers in order to keep a track of the impacts, which evolve at the farming stage of food production. The use by SMEs is evolving.

NieKE: Which indicators do you use for the calculation?

Smetana: Multiple indicators methodologies, which assure the holism of the system. Complete LCA is relying on a number of 11-20 indicators. The most famous are carbon footprint, land use, water footprint, energy use, eutrophication and acidification.

NieKE: What is the current state of development at the DIL?

Smetana: DIL is following a clear strategy of assurance of sustainability of all the innovative developed technologies and products. Sustainability assurance is performed in terms of social relevance, nutritional profile of foods and food frauds elimination, data analysis and digitalization to ensure the economic benefits and safety for the environment.

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NieKE: Which upcoming regulations in Germany and EU trigger the use of sustainability assessment in agri-food production and is a report mandatory for the companies?

Smetana: The legislation right now is aiming to have a social responsibility reporting by companies. Sustainability assessment is voluntary there and without specific requirements for the means of sustainability assessment. But the upcoming regulations and demand from the consumer and economic side will change it. In EU it is a Product Environmental Footprint (PEF), which creates guidelines for LCA in diverse food industries and benchmarks of sustainable production. It will take 2-3 more years for PEF to be finalized and accepted and some more time to emerge in German policies. At the same time, Germany is currently working on Sustainability Development Strategy, which includes the need for sustainable reporting by producing companies.

NieKE: You developed an App, to calculate the environmental footprint of a product. Who can use the App and how does it work?

Smetana: The LCA App is a part of DIL App (created by DIL team), which is available to download for free. While DIL App is aimed for its member companies, the LCA part can be used by anyone. After the selection of a few parameters of food production it provides environmental impact results in four categories:

- global warming potential,
- land use,
- non-renewable energy use and
- water footprint.

A person can use to compare products or impact of different stages of food production and identify hotspots.

NieKE: What further developments in food production are foreseen in the area of sustainability assessment?

Smetana: In food industry the sustainability assurance is only a part of the story. In future it should be combined with the nutritional profile of foods, clear traceability and digitalization.

NieKE: Is the LCA only suitable for food production?

Smetana: No. It was born in food area. First LCA was performed for Coca Cola packaging, but currently LCA is effectively used in building, automotive, space, electronics and energy sectors and many others as well.

NieKE: What advantages does the LCA provide for the companies?

Smetana: LCA is covering the environmental impact part. It is strongly connected to the use of resources. That's why the companies using LCA to optimize the production reach the win-win situation of environmental impact and cost reduction. The reduction of costs brings additional benefits in terms of consumer satisfaction.

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NieKE: How do you assess the potential of LCA for the future?

Smetana: LCA has a strong scientific basis and enormous potential for the combination with other methods. I see its future in combination with big data analysis and digital automation. It will ensure its wide and effective applicability for farmers, industries, retailers and consumers.

NieKE: Dear Mr. Smetana, thank you for your time.

The interview was conducted by Sebastian Biedermann (DIL e.V.) and Anne-Lene Mahr (NieKE), September 2016