

SUSTAINABLE PRODUCTION & HEALTHY EATING

FACT SHEET



SHEET NO. 0

This fact sheet is one of a series compiled by the Food Innovation Centre at the University of Nottingham, providing clear, concise and scientifically reliable information on key topics for SMEs

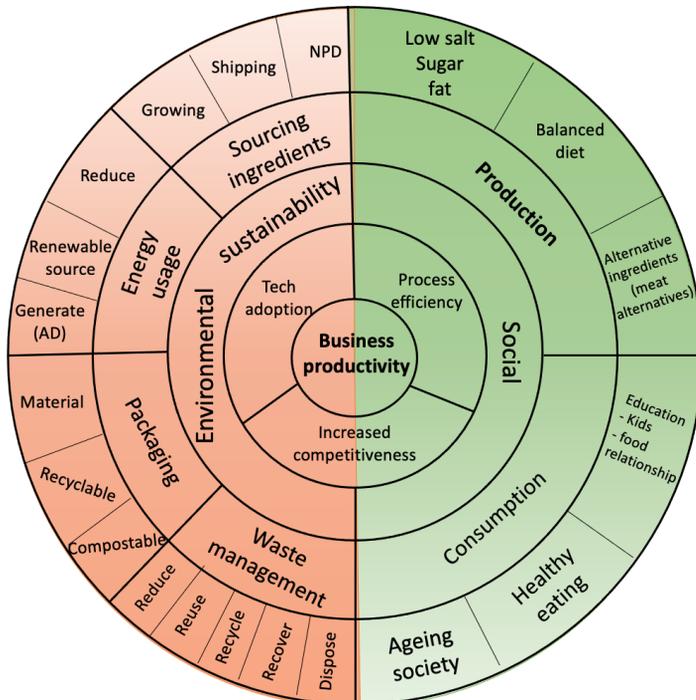
The Overview

Importance of sustainability

The challenges we face:

- **Growing population.** The Food Agriculture Organization (FAO), estimated that, the world population will reach about 9.1 billion by 2050 (34% higher than today).
- **Increasing global demand for food production (e.g. protein demand)** due to population growth, and increased longevity.
- **More resources needed for food production.** Land, water and energy, will become limiting factors.
- **Climate change and loss of biodiversity.**
- Added to the challenge: **growing market demand for sustainable products/diets.** sustainable food products need to be nutrient-dense to allow people to have a diverse, nutritionally balanced diet for supporting health.

Overview of sustainable production & healthy eating



The overview diagram, captures the themes of 'sustainable production and healthy eating', from farm, to food to fork.

It covers environmental sustainability, including sustainable farming, sourcing and food processing/production, as well as the nutritional considerations, such as selection of healthier and sustainable ingredients, food re-formulation and consumption.

For business/SMEs, sustainable production (e.g. adopting sustainable packaging, reducing waste, using efficient energy, exploring sustainable and/or organic ingredients) will help to increase productivity and competitiveness, meeting the consumers' demand.

From a consumer and social-economical point of view, a healthy eating behavior, especially kids and elderly groups, would in turn, drive the shift to healthy, sustainable ingredients farming and finished sustainable, affordable, and nutritious product production.

"Pandemic and war, will worsen child malnutrition e.g. 22% of children under 5 are stunted, and 5.7% are overweight".
- [According to the UN report 2021]

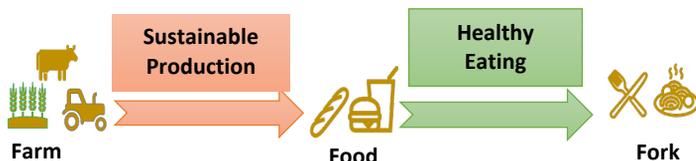
National & International Strategies

A policy perspective and support

United Nations (UN) sustainable goal. Sustainability and nutrition are a high priority on the global political agenda, and 17 UN sustainable development goals have been set (e.g. zero hunger), three of which directly target nutritional and sustainability challenges.

European Commission (EC). Sustainable production and consumption goal. The EC has been assessing how best to reduce the negative impact of food production on the environment, and made a 'Food 2030' policy, ensuring everyone has enough affordable, nutritious foods for a health life.

UK National Food and Sustainability strategies. The FSA sets out environmental sustainability strategies to support the UK government to reduce emissions by 2030, and to be net zero by 2050; the government has also proposed national food strategies to promote sustainable, healthier diets and nutrition.



Sustainable Production & Healthy Eating: the Overview

Fact sheet 3



Waste management

Food waste or loss is widespread and occurs throughout the food system, during production, processing, distribution, retail, and consumption. It causes extra economic, environmental and social cost and has negatively impacted on climate change. Waste management including prevention/reducing, recycling, re-use/value-added, and recovery, would help reduce the environmental impact and business cost. WRAP (Waste & Resource Action Program), a UK registered charity, has proposed '5-5-5 approaches' to help individuals and food businesses/SMEs reduce and manage their food waste. [file:///Refer to Fact sheet 3/ food waste management and valorisation for more detailed information.](#)

Sustainable farming, sourcing & supply. The EU commission encourages and supports the shift to organic farming and boost supply and demand for organic products/ingredients through promotion campaigns and green public procurement. Factors such as changing consumer attitudes towards the environment, food safety and personal health, are increasing the demand of locally produced foods. Businesses could also explore and source ingredients locally to reduce food miles and carbon footprint, and/or war disruption along their supply chain to meet the consumers demands. Food fraud disrupts sustainability of food systems. It undermines food safety, commercial practices and market reputation for sourcing and selling products. Combating food fraud along the food supply chain, is therefore also important factor.

Food packaging plays a key role in food systems suitability. Selection, and usage of innovative and sustainable packaging solutions using environmentally-friendly, re-usable and recyclable materials, is encouraged and supported by the EU commission and UK government. It may bring business new selling points and contribute to food preservation and food waste reduction. [file:///Refer to Fact sheet 1/ sustainable food and drink packaging for more detailed information.](#)

Improving energy efficiency and reducing greenhouse gas emissions, could help businesses cut costs, increase competitiveness, and be more environmentally sustainable. Several cost-effective measures can be implemented to provide significant energy savings and improve SMEs sustainability claims; these include energy-efficient management, better staff training, adoption of new/smarter technologies, and the shifting to green energy use. [Refer to Fact sheet 5/ More sustainable energy use for more detailed information.](#)

Fact sheet 2



Alternative ingredients

Adoption and selection of healthier ingredients. To produce healthier foods and drinks, food businesses (SMEs) could think about adopting and selecting more sustainable, nutritious and healthier ingredients. e.g. alternative/sustainable protein sources and other plant-based vegetables and fruits. Availability, affordability and regulations can be the limiting factors. [file:///See Fact sheet 2/ Plant based proteins and meat alternatives for more detailed information.](#)

Diet The market for convenience food is dominated by meals and products that are rich in calories (i.e. high fat, sugar) and/or salt, but low in nutritional value. As cases of non communicable diseases have been increasing to epidemic proportions, leading to the UK government proposing new national food strategy to reduce sugar, fat and salt, and encourage food manufacturers to produce or reformulate more balanced, nutritious foods and diet. Balanced nutrition generally are high in fibre, quality protein (ideally highly digestible with complete essential amino acids), and healthier fats (i.e. omega 3 & 6 fats) with right proportions of minerals and vitamins, but low in sugar, salt and saturated fats. With increased self-awareness of health, businesses producing sustainable, nutritious products can help stay competitive. Scientific research has also intensified its efforts to produce healthier food, which can be a knowledge pool to support businesses/SMEs.

[Refer to Fact sheets 4, 6 and 8 for more detailed information.](#)

Social & education for kids. School education, especially the interactive/experiential learning, is the most effective way to educate kid on their relationship with foods. However, food labelling in supermarkets and restaurants is also effective, e.g the traffic light approach is more effective than just information provision. Better designed media campaigns (not TV only, but online) with government regulation may also be effective to help kids eating healthily.

Social & innovative foods for seniors. There is a huge market potential for producing innovative foods and services for senior groups (Market research Mintel). The healthy ageing and elderly nutrition market, is an opportunity for SMEs to target.

[file:///Refer to Fact sheet 7/ Healthy Ageing/ elderly nutrition, for more detailed Information.](#)

Fact sheet 4, 6, 8



Reformulation & Balanced diet



Social & Education

Fact sheet 7



Social & Healthy ageing

Fact sheet 1



Packaging

Fact sheet 5



Energy usage

Resources

Wentao Liu (2021) 'Sustainable Production & Healthy Eating'. In: Wentao Liu (2021) 'Healthy Eating'.



To download this document, the main reference guide and more: <https://www.nottingham.ac.uk/fic/research-healthy-eating.aspx>

Contacts & further information

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If you want to know more and have issues you wish to discuss, contact the Food Innovation Team who may be able to help