

Sustainable production and consumption

Relevance of the theme for sustainable development

Calculations of the ecological footprints⁶ of nations show that global consumption of natural resources since the 1980s has far surpassed the productivity rate of the biosphere. By 2 August 2017, human beings had used more natural resources than the planet could renew in the whole year.⁷ Humanity currently uses more ecological resources and services than nature can regenerate as a result of overfishing, overharvesting forests and emitting carbon dioxide into the atmosphere (Worldwatch Institute, 2004, 2010). If current trends persist, by 2050 the projected global population of about 9.6 billion will need, 'the equivalent of almost three planets ... to provide the natural resources needed to sustain current lifestyles'.⁸

While agriculture and food processing produce substantial environmental impacts, households influence these impacts through their dietary choices and habits. Every year, 1.3 billion tonnes of food is wasted, while almost 1 billion people go undernourished and another 1 billion are hungry.⁹ Land degradation, declining soil fertility, unsustainable water use, overfishing and marine environment degradation are all lessening the ability of the natural resource base to supply food (FAO, 2016). The food sector accounts for around 30 per cent of the world's total energy consumption and is responsible for around 22 per cent of total greenhouse gas emissions (IPCC, 2014).

Despite technological advances that have promoted energy efficiency gains, energy use in OECD countries will continue to grow another 35 per cent by 2020. Commercial and residential energy use is the second most rapidly growing area of global energy use after transport. Households consume 29 per cent of global energy and consequently contribute 21 per cent of the resulting CO₂ emissions (IEA, 2016; IPCC, 2014).

Sustainable consumption and production is about increasing resource and energy efficiency, building sustainable infrastructure and providing access to a better quality of life for all. While increasing quality of life is important,

6 The ecological footprint is a measure of human impact on Earth's ecosystems. It measures the supply of and demand on nature and is measured in area of wilderness or amount of natural capital consumed each year (www.footprintnetwork.org).

7 See www.overshootday.org.

8 See www.un.org/sustainabledevelopment/wp-content/uploads/2016/08/16-00055L_Why-it-Matters_Goal-12_Consumption_2p.pdf.

9 See www.fao.org/save-food/resources/keyfindings/en.

reducing resource use, degradation and pollution along the whole lifecycle is crucial. Thus, sustainable consumption and production (SCP) aims to reduce poverty and future economic, environmental and social costs. The 1994 Oslo Symposium on Sustainable Consumption defines SCP as 'the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations' (Norwegian Ministry of the Environment, 1994).

Facilitating sustainable consumption and production requires cooperation among all actors operating in the supply chain – from producer to final consumer. Awareness-raising and education campaigns on sustainable consumption and lifestyles are also needed to provide consumers with information about strategies and practices of sustainable production and consumption, and teach them how to promote sustainable production patterns (Fischer and Barth, 2014; McGregor, 2011).

Linkages with the SDGs

Sustainable production and consumption is at the core of SDG 12 'Responsible Consumption and Production – Ensure sustainable consumption and production patterns'.

This SDG aims to:

- Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead and taking into account their own level of development and capabilities;
- By 2030, achieve the sustainable management and efficient use of natural resources;
- By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses;
- By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release

to air, water and soil in order to minimize their adverse impacts on human health and the environment;

- By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse;
- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle;
- Promote public procurement practices that are sustainable, in accordance with national policies and priorities;
- By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature;
- Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production;
- Develop and implement tools to monitor sustainable development impacts for tourism that creates jobs and promotes local culture and products;
- Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and affected communities.¹⁰

Learning objectives

In order to understand sustainable production and consumption and be able to contribute to achieving SDG12, learners should work towards the following

¹⁰ See www.un.org/sustainabledevelopment/sustainable-consumption-production.

objectives in the cognitive, socio-emotional and behavioural domain (see Table 4).

Table 4: Learning objectives for SDG12 'Responsible Consumption and Production'

<p>Cognitive learning objectives</p>	<ol style="list-style-type: none"> 1. The learner understands how individual lifestyle choices influence social, economic and environmental development 2. The learner understands production and consumption patterns and value chains and the interrelatedness of production and consumption (supply and demand, toxics, CO2 emissions, waste generation, health, working conditions, poverty, etc.) 3. The learner knows the roles, rights and duties of different actors in production and consumption (media and advertising, enterprises, municipalities, legislation, consumers, etc.) 4. The learner knows about strategies and practices of sustainable production and consumption 5. The learner understands dilemmas/trade-offs related to and system changes necessary for achieving sustainable consumption and production
<p>Socio-emotional learning objectives</p>	<ol style="list-style-type: none"> 1. The learner is able to communicate the need for sustainable practices in production and consumption 2. The learner is able to encourage others to engage in sustainable practices in consumption and production 3. The learner is able to differentiate between needs and wants and to reflect on their own individual consumer behaviour in light of the needs of the natural world, other people, cultures and countries, and future generations 4. The learner is able to envision sustainable lifestyles 5. The learner is able to feel responsible for the environmental and social impacts of their own individual behaviour as a producer or consumer
<p>Behavioural learning objectives</p>	<ol style="list-style-type: none"> 1. The learner is able to plan, implement and evaluate consumption-related activities using existing sustainability criteria 2. The learner is able to evaluate, participate in and influence decision-making processes about acquisitions in the public sector 3. The learner is able to promote sustainable production patterns 4. The learner is able to act critically in their role as an active stakeholder in the market 5. The learner is able to challenge cultural and societal orientations in consumption and production

Source: UNESCO (2017).

Integrating the key theme into education programmes and practice

The following learning approaches and methods can be used to facilitate learning about sustainable production and consumption (Box 4).

Box 4: Examples of learning approaches and methods for SDG12 'Responsible Consumption and Production'

- Calculate and reflect on one's individual ecological footprint¹¹
- Analyse different products (e.g. cell phones, computers, clothes) using Life Cycle Analysis (LCA)
- Run a student company producing and selling sustainable products
- Perform role plays dealing with different roles in a trading system (producer, advertiser, consumer, waste manager, etc.)
- Screen short films/documentaries to help learners understand production and consumption patterns (e.g. *Story of Stuff* by Annie Leonard)¹²
- Develop and run a (youth) action project related to production and consumption (e.g. fashion, technology, etc.)
- Develop an enquiry-based project: "Is sustainability about giving things up?"

Source: UNESCO (2017).

Reduction of poverty

Relevance of the theme for sustainable development

Remarkable progress has been made in human development over the past twenty-five years. Today, people live longer while more children attend school and more people have access to basic social services (UNDP, 2016). However, the gap between poor and rich countries has grown considerably. In 2010, the richest country in the world (Liechtenstein) was three times richer than the richest country in 1970. The poorest country today (Zimbabwe) is 25 per cent poorer than the poorest country in 1970 (also Zimbabwe) (UNDP, 2010).

11 See www.footprintnetwork.org/en/index.php/GFN/page/calculators.

12 See <http://storyofstuff.org/movies/story-of-stuff>.