Storyline 3b: Localisation for sustainability

Local food systems - low level of implementation of agro-ecological practises

This is an alterative storyline which emerges in the same scenario corner (Figure 2) as Localisation for protection, i.e. out of a combination of a high degree of local food systems and with a low level of implementation of agro-ecological practises. Compared to the previous scenario whiched played out in SSP3 scenario; Regional Rivalty – A Rocky Road scenario, **Localisation for sustainability** plays out the SSP 1 scenario: Sustainability – Taking the Green Road.[1] In the SSP 1 sustainability scenario, the growing evidence of the multi-faceted cost of inequity and environmental breakdown is pushing for the prioritisation of reaching sustainability goals, with a shift in focus from economic growth towards improvements in well-being, especially in developing countries (O'Neill et al., 2017).

In this storyline therefore, local food systems do not arise for reasons of nationalism and protectionism, but rather as an outcome of a deliberate policy goal of creating truly sustainable and resilient food systems. Support of local food production to sustain and develop rural communities is one important socio-economic sustainability goal that is given high priority in this narrative, but other advantages with local food production also acts as important drivers. These include cutting food miles[2], closing nutrient cycling and avoiding further regional specilisation and concentration of food production which leads to water stress, loss of soil carbon, the spread of pests and negative outcomes for biodiversity. Thus, within the framework of the CAP (which design stays close to the post 2020 one), Member states prioritise policies that steer towards local production systems (cf. Finland which has achieved that within the current CAP system).

At the same time as local food systems are promoted by global, European and national institutions, global agricultural markets are opened to developing countries (SSP1) to promote greater equity. However, due to the promotion of local and regional food systems for reaching sustainability goals, trade volumes are not substaintially increased. It is mostly high value specilised cash crops that are imported into the EU, e.g. coffee, tea, cocoa, nuts, tropical fruits etc., while the EU is a net exporter of some surplus mainly bulk commodities (cereals, legumes, milk powder) but also some limited amounts of high value foods (wine, spirits) to regions which does not have enough agricultural land to sustain their populations (e.g. the Middle East), and to regions and consumer groups (e.g. urban middle-class) that can afford and demand these high value foods. International, as well as EU internal trade exchanges, are important for increased reslience as different regions are affected by climate change aggravated extreme events.

The main difference between this storyline and the Local-agro-ecological-food-systems-storyline (see next section), which both include a transition to local food systems, is that the Local-agro-ecological-food-systems-storyline has a strong focus on agro-ecological food systems, including more 'nature' based practises and redesign of agricultural systems, while this scenario here focuses on the localisation aspects and relies more on technical solutions aligned more with the 'sustainable intensification' perspecive on agriculture (ref SI). For example, in this scenario, using mineral nitrogen fertilisers produced using renewable energy[3] would be seen

[1] This scenario was added after the third workshop as several stakeholders had strong opinions on the negative framing of Localisation for protection. They argued that local food systems could be established without the negative connotations of nationalism.

[2] https://www.euractiv.com/section/agriculture-food/news/sr-agri-local-zero-kilometre-products-start-to-take-spain-by-storm/

[3] First renewable fertilisers will be on the market in 2022. https://lantmannen.com/newsroom/press-releases/lantmannen-and-yara-lead-the-way-towards-worlds-first-fossil-free-food-chain/

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as a sustainable practise, while in the Local-agro-ecological-food systems-storyline nitrogen fixation using legumes would be the preferred option.

A prerequisite to 'the pursuit of a sustainable and resilient food systems' is a shift in diets to increased seasonality, determined by local availability of foods. Depending on location, eating patterns in the EU hence stratify. In the southern parts of Europe, climate change induced droughts drive up prices of crops and the economic viability of feeding cereals to livestock dimishes and diets hence become mainly plant-based. In the northern parts of Europe, variation in climatic conditions increase markedly, making the availability of fruits, vegetables and cereals volatile. Increased use (and dependence) on low-cost grazing on marginal lands however makes milk and ruminant meat more abundantly available. Rapid technological advancement additionally introduces an array of novel food products stemming from sources with low environmental impact, e.g. synthethic extration of protein from inedible biomass, insects and lab-cultivated foods.

High investments in health and education and an accelerated demographic transition (SSP1) result in larger shares of the global population demanding fresh and seasonal foods, which acts as a postivie feedback loop on health. Due to the low implementation of agro-ecological practices, supply is however continously dominated by a narrow range of foods such as wheat, maize, rice, tomatoes, apples etc. and few local and/or traditional crop types are cultivated. That is, current trends of reduced nutrient content in globally widespread crops continue which hamper some of the positive outcomes for health.

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